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ABSTRACT

The planning and implementation of the Comprehensive Career Education Model for grades K-14 (a 3-year project in Philadelphia, Pennsylvania) is described. (The project's five major objectives were (1) to increase self-awareness of pupils by providing insight into their skills, potentials, and abilities which relate to the world of work, (2) to promote career awareness, including the professions, among project participants, (3) to provide opportunities for career exploration, (4) to provide skill development in the business, metal, and graphic communications clusters, and (5) to provide job placement services and counseling for students upon leaving school.) Project design and components discussed include general project design, staff development, curriculum infusion, elementary career exploration in an area vocational-technical school, ninth grade career exploration program, vocational evaluation center, cluster program, computer based career information program, slide tape program, microfilm career information program, job placement, activities 1973-76, and organization and participants. Project accomplishments are also briefly discussed. Third party and test/data evaluations are included, and conclusions and recommendations are made for the three years of the project. The appendix contains the model, rationale and objectives for career education (K-12), and a discussion of the James Russel Lowell School's multi-image experience room and its application to curriculum. (TA)

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FINAL REPORT

Project No. V361134
Grant No. OEG-0-73-5273

COMPREHENSIVE CAREER EDUCATION MODEL K-14

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EDUCATION & WELFARE
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Exemplary Project in Vocational Education
Conducted Under
Part D of Public Law 90-576

Stanley B. Cohen
School District of Philadelphia
Parkway at Twenty-First Street
Philadelphia, Pennsylvania 19103

September 1976

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FINAL REPORT

Project No. V361134
Grant No. OEG-0-73-5273

COMPREHENSIVE CAREER EDUCATION
MODEL K-14

Exemplary Project in Vocational Education
Conducted Under
Part D of Public Law 90-576

The project reported herein was performed pursuant to a grant from the Office of Education, U. S. Department of Health, Education, and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position or policy.

Stanley B. Cohen
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Parkway at Twenty-First Street
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September 1976

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CAREER EDUCATION I (K-12
A MODEL, RATIONALE AND OBJECTIVES FOR CAREER EDUCATION

THE JAMES RUSSEL LOWELL SCHOOL'S MULTI-IMAGE EXPERIENCE ROOM AND ITS APPLICATION TO CURRICULUM

I. SUMMARY OF REPORT

SUMMARY OF REPORT

The Comprehensive Career Education Model K-14 was a three (3) year federally funded project conducted under Section 142(c), Part D of Public Law 90-576 commencing in June of 1973. The five (5) major objectives were as follows: (1) To increase self-awareness of pupils by providing insight into their skills, potentials and abilities which would relate to the world of work, (2) To promote career awareness, including the professions, among project participants, (3) To provide opportunities for career exploration, (4) To provide skill development in the business, metal and graphic communications clusters, and (5) To provide job placement services and counseling for students upon leaving school.

The procedures implemented to attain the above were many and varied. They included: classroom activities and simulations, field trips, use of commercial career education materials, inter-school and intra-school exploratory activities, technology labs, vocational exploration and evaluation program, cluster programs in business, metals and graphic communications, Vocational Information Computer System (VICS), Pennscript, and Job placement. The procedures utilized in each school and at each level were dependent upon the ongoing activities of the classroom teacher. This was done to assure that career education concepts would be infused rather than added onto the regular school curriculum.

The project had many accomplishments. Primarily CCEM K-14 demonstrated an articulated inter-school, inter-level, and inter-discipline career education process within a major urban setting involving both public and parochial school students. Many of the resistants which have heretofore prevented these processes were surmounted by tactful use of local and federal resources available to the Director and his staff. Theoretical career education concepts were translated into action strategies for each segment of the population served, and implemented utilizing federal resources as catalyst. There was a 44% reduction in federal support available for year two and three which was offset by support from other sources obtained by the Division of Career Education. This supplemental support prevented a subsequent reeducation in project activities and accomplishments.

Evaluation of the project was performed by an independent Third Party Evaluator contracted per regulations from the U. S. Office of Education. The major objectives of this project did not lend themselves to measurement since they were in conceptual rather than behavioral form. An attempt was made for a formative evaluation in an effort to collect data upon which conclusions could be drawn. Mainly, the evaluation is of a process nature based upon information collected through numerous on-site observations. Interaction between the Evaluator and project participants (Administration, staff, teachers and students), and project records, provided extensive data for analysis by the Evaluator.

The activities, accomplishments and evaluations delineated in this report substantiate the success demonstrated by this project in providing valuable information for continuance, expansion and refinement of this, and other efforts, for the educational benefit of the children of Philadelphia.

ABSTRACT

State & Project Number: Pennsylvania V361134

Title of Project: Comprehensive Career Education
Model K-14

Project Director: Stanley B. Cohen, Director
Career Education Planning
and Development

Applicant Organization: School District of Philadelphia
Parkway at Twenty-First Street
Philadelphia, Penna. 19103

Total Federal
Funds - Section 142 (C): $313,815.00

Duration: July 1, 1973 thru June 30, 1976

Site Information:

The Philadelphia School System is the largest school district in the state of Pennsylvania. The system is divided into eight separate districts having its own district officer operating under the jurisdiction of the Superintendent of Schools. The system has a student enrollment of 289,039 and an operating budget for 1974 of $470,000,000.00. The racial make-up of our system is as follows: 62% Black, 4% Spanish speaking and 34% all others. The percentage of educationally disadvantaged students is approximately 45% and economically disadvantaged is approximately 37%.

Description of Program:

1. Administrative Structure

The Director of Career Education Planning and Development has overall responsibility for the operation of the Comprehensive Career Education Model K-14 program. The Advisory Council for Vocational Education of the City of Philadelphia which includes representatives of community, business, industry and labor is utilized in all phases of the planning and operation of the program. The Council reports directly to the Executive Director of Career Education. In addition, a special advisory council has been organized for this program.

II. Program Design

There are five (5) phases of development in this program. They are as follows: (1) To increase self-awareness of pupils by providing insight into their skills, potentials and abilities which would relate to the world of work, (2) To promote career awareness, including the professions, among program participants, (3) To provide opportunities for career exploration, (4) To provide skill development in the business, metal and communication clusters, and (5) To provide job placement service and counseling for students upon leaving school.

III. Program Components

Overall Guidance and Counseling Emphasis, Including Self-Awareness, Attitudes Toward Work, and Career Decision-Making Skills

Guidance and counseling activities are implemented at all levels, inside and outside the classroom environment, to develop, within the child, a positive self-image, positive attitudes toward work, career awareness and acute decision making skills. Greater emphasis is placed on the child's relation with the world-of-work, as the child progresses through school.

Elementary Career Awareness -- Career awareness are developed at the K-6 levels through a variety of activities and approaches. The children are exposed to careers through in-class activities, meetings with role models, small group discussions, "hands-on" activities and integration of Career Education concepts into the regular teaching program. Decision-making skills are developed through a teaching technique which daily makes the child a decision maker, having to set up goals, seek alternatives and choose his course of action.

Junior High or Middle School Career Orientation and Exploration

Career exploration at levels 7-8 has been expanded to involve the children in exploratory activities in the skills laboratory housed in the public school. The "World of Construction" and "World of Manufacturing" is used to give the children in-depth experiences within these two clusters. The children are also involved in weekly trips to the area vocational-technical school, where they are paired, on a one to one basis, with "hands-on" activities. In conjunction with the above trips, the children also meet with role models at on-site locations. Students in the 9th grade receive training and evaluation using the Singer Vocational Evaluation System. Ninth (9th) grade students are afforded a complete trade explorative program at the area vocational-technical school. These electives provide career activities. Job Preparation in Grades 10-14-- Several approaches are taken for the inclusion of cooperative education and work experience programs in the K-14 Career Education Plan. A newly instituted job guidance counselor funded under the Vocational Education Act of 1968 is actively involved in the development of resources through which students obtain employment and serves as the major coordinator for all work programs within the school. In addition all counselors within the school have and will continue to participate in a staff development program to help them more effectively provide leadership in developing guidance programs for job-bound youth. These programs focus on helping students develop decision-making skill and how best to use these skills in educational and vocational planning and to assist in the determination of which type of work experience a student will obtain to best serve his education and vocational needs Amond the many options are the following: (1) Work Experience Programs; (2) Cooperative Office Education; (3) Distributive Education; (4) Cooperative Technical Education.

Placement Activities--Job placement with "cooperative" employers, intensive skill development for students leaving school before graduation and priority for placing students pursuing vocational curriculum, is accomplished with counseling and the use of a job developer.

The function of the Job Developer is to continue to develop, process and fill (1) jobs for disadvantaged students--jobs after school, evenings, weekends, holidays, and summer, (2) jobs of a temporary or occasional nature, (3) jobs for current dropouts and current graduates in consonance with the efforts of the bureau of Employment Security.

This program helps to provide a work experience for additonal disadvantaged students in the high schools. Major emphasis in placement will be for those students who are pursuing a vocational curriculum. Additional efforts in serving students provides a first vocational experience for many youths, hopefully stimulating interest for their taking related occupational training in the schools. Career development is enhanced through these employment opportunities.

Other--Field trips and visits to a variety of work locations hasbeen expanded to grades K-8 during the 2nd and 3rd years of the program. Given the immediate need for intensive career exploration activities with appropriate counseling and follow-up activities of an in-depth nature, it was deemed reasonable to concentrate the resources of the first year on target population for maximum effectiveness. However, the experiences and knowledges gained on the part of the staff as well as students during the first year, has facilitate its expansion during the 2nd and 3rd years of operation to include all students in grades K-8.

IV. Unique Features

a. Introduction to vocations in the elementary grades had involve "hands-on" occupational exploration for students.

b. Implementation of revised curriculum for career development activities.

c. Individually prescribed, self-pacing learning packages developed by a team including a vocational teacher and a basic learning skills teacher.

d. Use of cluster concept for curriculum development.

e. The interrelationship between public and parochial school students in weekly activities at their home schools, and also, at the area vocational-technical high school.

II. PROBLEM AREA

PROBLEM AREA

There is increasing concern about the great number of high school dropouts and graduates leaving school without adequate skill preparation. Therefore, it is important that a career education program be developed to provide all students with career development experiences and occupational skills preparation appropriate to their individual needs as well as those of the labor market.

A recent report prepared for the School District of Philadelphia by the American Research Corporation indicated the need to expand and revamp the vocational technical program (American Vocational Research Corporation, 1971). The report stated that "46% of the graduates who did not receive vocational education might have or could have benefited from vocational education since they were available to enter the labor market immediately after completing high school." This indicates a large percentage of students who did not or could not avail themselves of vocational or technical preparation or the opportunity to go to college, and who were not provided sufficient vocational guidance during their earlier years in school. Coordination with, as well as assistance and support from, public employment agencies is also a necessary component of this process.

The essential area in which a revitalization of the vocational technical program must take place is curriculum. The curriculum of the future must have as its major purpose providing flexibility for the student to change his curriculum goals without suffering a major setback in his school programs. In order to achieve this, students should be provided a basic technology and humanistic skills curriculum. It should allow for majoring in a broad career cluster which enables the student to make a choice of vocations from a number of related jobs. More specifically, the individual must be equipped with both the skills and a broader conceptual background in a family or cluster of occupations so that he is prepared to adjust to subsequent technological development in his field.

The accomplishment of this goal - providing individuals with job skills commensurate with their interests and abilities - is to be achieved by the total integration of the career education concept into the curriculum. Career education is a broad generic term which covers all those educational experiences which give an individual an opportunity to explore the various occupations, including the professions, develop maturity, and accept responsibility for planning his future.

Predicting precisely how the concept of career development will evolve in the future is difficult. However certain elements of any career education program will remain constant regardless of the economic changes as new and emerging occupations are introduced. Among the concepts which remain central to any career education program are the following: attention to the student's self-concept, career awareness, attention to the cluster concept, and skill development through experience in simulated and real situations. These simulated and real experiences are best imparted through attention to occupational clusters, because clusters, composed of a group of related occupational classifications, change much more slowly than do specific jobs. There may be changes in one area or job classification, but the cluster as a whole is more stable.

In addition to the focus on occupational clusters, an interdisciplinary program of career development with greater emphasis upon career guidance as part of the curriculum is necessary. Career Guidance is a process of great significance in an individual's general education. This process should include both special activities organized and handled by the counselors and activities planned by teachers from various disciplines. While a great deal of information about careers can be transmitted in conceptual terms, it is felt that giving students "hands-on" experiences in a career or area of careers will better enable them to develop their self-awareness and to obtain a background of experience on which to base future choices. It is possible to plan a series of vocationally relevent experiences which have meaning for the career development of students, and certain kinds of appropriate experiences can be defined for students at various levels of their growth.

There are a number of comprehensive (K-12 or K-14) school-based career education projects in progress throughout the nation, each focusing on general career education objectives as well as needs indigenous to the particular location on which it is being implemented. "The Center for Occupational Education at North Carolina State University has identified 41 school systems throughout the United States which supposedly have innovative K-12 career education programs" (Hoyt et al., 1972, p.76). Some of these will be briefly described here (the following descriptions are adapted from Hoyt et al, 1972, pp. 64-65; and Smoker, 1971, pp. 56-62).

U.S. Office of Education (USOE) funds have been used by Delaware to plan a conversion of all its school districts to a K-12 career education program. An early activity of the Delaware project has been the use of an "Occupations Mall" to provide a variety of occupational training stations for secondary school students. Under U.S.O.E. grant, Jones County, Mississippi, schools are serving as a pilot site for the state's eventual conversion to a comprehensive career education model. As in Delaware, the initial thrust in Jones County is in secondary education, through an occupational orientation program. Workshops, field trips, and seminars are provided for elementary pupils and teachers.

North Dakota has instituted a U.S.O.E. sponsored K-14 career education program in Bismark. This program includes career orientation at all levels, and cooperative work experience, intensive occupational guidance and counseling, and job placement at the secondary level.

Huntsville, Alabama has implemented a K-14 program of occupational information, guidance, and skill training involving the local Vocational Education Center and Huntsville Model Cities, as well as the public school system.

A comprehensive career education program is being implemented in the Bridgeport, Connecticut Public Schools, focusing on the career "cluster" and "career ladder" concepts. This program is to provide occupational orientation and the use of industrial arts and home economics labs at the exploratory and prevocational levels, as well as vestibule training programs in industry for high school students and intensive job entry skill training to students about to leave school.

The District of Columbia is instituting a decentralized K-12 career education program, with plans for extensive use of cooperative efforts with business-industry-government.

In the Cobb County, Georgia School System, the emphases of the comprehensive career education project include a revision of the industrial arts curriculum for career development activities; prevocational programs in human services, business, and distribution; and a summer intensive job entry skill training program.

Similar comprehensive career education programs, with emphases dictated by local needs, are being planned and/or implemented in Council Bluffs, Iowa; Richmond, Kentucky; Washoe County, Nevada; Peterborough, New Hampshire; Hackensack, New Jersey (pre-school to adult); Lancaster, South Carolina; and Portland, Oregon.

Comprehensive U.S.O.E. sponsored career education programs emphasizing the role of career guidance and counseling are currently being planned and/or implemented in Pittsburgh, Pennsylvania; Memphis, Tennessee; and on a statewide basis in Maryland, North Dakota, and Hawaii.

Comprehensive career education projects funded by U.S.O.E. which are geared toward the problems of inner-city education and the education of disadvantaged youth, are being implemented in Roxbury, Massachusetts; Cleveland, Ohio; New Orleans, Louisiana; and Tulsa, Oklahoma.

The efforts expended in these, among many, innovative career programs throughout the United States, support the conclusion that the lack of adequate preparation of students for the world of work demands a solution of a coordinated career development program from grades K-14, in a single setting for maximum efficiency. Youngsters must be given the opportunity as early as possible in their educational experiences to identify possible career choices and to prepare for one or more of these choices. In order to effect maximum program success, the findings of previous and current research efforts will be reviewed and evaluated for their usefulness in Philadelphia.

III. GOALS AND OBJECTIVES

OBJECTIVES

OBJECTIVES

The five major objectives of this project were:

1. To increase self-awareness of pupils by providing insight into their skills, potentials and abilities which would relate to the world of work.

2. To promote career awareness, including the professions, among program participants.

3. To provide opportunities for career exploration.

4. To provide skill development in the business, metal and communications clusters.

5. To provide job placement services and counseling for students upon leaving school.

While the attainment of these objectives is a long-range goal for every student of the School District, the project focused on specific objectives at different levels. The awareness objectives (1 and 2 above) were employed at all levels (K-12), the exploration objective (3 above) was emphasized at the junior high levels (7-9), while the preparation objectives (4 and 5 above) were designed to meet the needs of students at the secondary levels (10-12).

The project management developed a three year objective based management plan in order that project's activities would be implemented such that the five major objectives would be attained. This plan delineates the specific management objectives for each year under four categorical headings (General, Awareness, Exploration and Preparation).

It should be noted that the management objectives formed the basis for the USOE Performance Review Vist for years 2 and 3 and were attained by the project administration and staff.

THREE YEAR MANAGEMENT PLAN
for
COMPREHENSIVE CAREER EDUCATION MODEL K-14

GENERAL

AWARENESS

EXPLORATION

PREPARATION

GENERAL

YEAR I

1. To develop and implement career education activities in the following schools and grades:
   Lowell Elementary - grade 3, 6, 7
   Most Precious Blood - grade 1, 3, 7, 8
   Dobbins Area Vocational Technical School - grade 9, 10, 11

2. To provide a monthly staff development sessions for teachers involved.

3. To implement the procedures necessary to attain the objectives for the CCEM K-14 proposal.

4. To provide counseling and job placement services for Dobbins AVT students.

5. To provide the School District of Philadelphia and HEW all reports, etc. required by the "Grants Terms and Conditions."

GENERAL

YEAR II

1. To implement career education activities in the following schools and grades:
    - Lowell Elementary - K to 8
    - Most Precious Blood - K to 8
    - Dobbins AVT - 9 to 12
    - St. Elizabeth - grade 8
    - E. Washington Rhodes - 6 teachers, grade 7 & 8

2. To provide a week long summer training session for teachers involved in year I.
   To provide bi-monthly inter-school and weekly intra-school staff development sessions.

3. To review and revise the procedures and treatments used during year I as a base for year II.

4. To provide counseling and job placement services for Dobbins AVT students.

5. To provide the School District of Philadelphia and HEW all reports, ect. required by the "Grants Terms and Condition.

6. To expand the CCEM K-14 program within the participating schools.

MANAGEMENT OBJECTIVES

YEAR III GENERAL

1. To develop and implement career education activities in the following schools and grades:

Bartram High School	9 to 12
Dobbins AVT School	9 to 12
E. W. Rhodes Middle (15 teachers)	7 & 8
Lamberton Alternative	10
Lowell Elementary Public	K to 8
Most Precious Blood Parochial	K to 8

2. To provide monthly inter-school and weekly intra-school staff development sessions.

3. To review and compile all procedures and treatments used during year I and II

4. To provide counseling and job placement services for Dobbins Area Vocational-technical School.

5. To utilize resources from the following programs:
   - Vocational Information Computer System (VICS)
   - Consortium on Career Education with Ohio State University
   - Slide Tape Programs developed by the Career Education Media Center
   - Vocational Education Information Network (VEIN)
   - Mobile Career Development Labs
   - Sound on Slide Curriculum Material
   - Pennscript
   - Singer/Graflex Vocational Evaluation System

6. To provide the School District of Philadelphia and HEW all reports, etc. required by the "Grants, Terms and Conditions."

7. To develop a plan for implementation, including a cost analysis for continuing this program. This plan will be designed to vover a three year time period.

8. To develop a viable plan for the inclusion of a post-secondary component into comprehensive career education.

9. To provide a written analysis of the results, product and process of the model including successes, failures and proposal for diffusing the successful aspects throughout Philadelphia Schools.

AWARENESS

Year I

1. To develop, adapt and implement classroom activities at Lowell and Most Precious Blood, which promote:
   - Self-Awareness
   - Career Awareness
   - Educational Awareness
   - Economic Awareness
   - Decision Making
   - Positive Attitudes

2. To provide "hands on" activities and role simulations in the regular classroom structure.

3. To provide small group counseling and discussion periods for all students.

4. To infuse career education concepts and activities into the regular curriculum structure.

5. To provide speakers, field trips and audio-visual materials for the students.

AWARENESS

YEAR II

1. To refine, expand and implement classroom activities at - Lowell and Most Precious Blood which promote:
   - Self-Awareness
   - Career Awareness
   - Educational Awareness
   - Economic Awareness
   - Decision Making
   - Positive Attitude

2. To provide "hands on" activities and role simulations in the regular classroom structure.

3. To provide small group counseling and discussion periods for all students.

4. To infuse career education concepts and activities into the regular curriculum structure.

5. To provide speakers, field trips and audiovisual materials for the students.

6. To develop, with 4 academic teachers at Dobbins, classroom activities infusing career education concept into their regular classroom curriculum.

MANAGEMENT OBJECTIVES

YEAR III AWARENESS K-6

1. To refine, expand and implement classroom activities at Lowell Elementary, Most Precious Blod Elementary, Dobbins Area Voc-tech school, E.W. Rhodes which promote:
   - Self-Awareness
   - Career Awareness
   - Educational Awareness
   - Economic Awareness
   - Decision Making
   - Positive Attitudes

2. To provide "hands-on" activities and role simulations in regular classroom structure.

3. To provide small group counseling and discussion periods for all students.

4. To infuse career education concepts and activities into the regular curriculum structure.

5. To provide speakers, field trips and audio-visual materials for the students.

6. To implement the activities developed during year II and revise and expand where necessary.

7. To set up a Career Materials Center at Most Precious Blood Parochial Elementary School and the Dobbins Area Vocational-technical School.

EXPLORATION

Year I

1. To provide exploration experiences in the 22 shops at the AVT school for ½ day a week for the two seventh grades at Lowell and grade 8 at Most Precious Blood.

2. To provide "hands-on" activities at the Lowell school ½ day a week, for grades 7 from Most Precious Blood.

3. To roster each 9th grade student to exploration experiences in the shops and vocational evaluation center at Dobbins prior to making a tenth grade trade selection.

4. To provide every student at the Dobbins AVTS an opportunity to use "VICS".

5. To provide 80 % of a counselor's time for the ninth grade class at Dobbins.

6. To provide 3rd grade students at Most Precious Blood, small group exploration of the shops at the AVT school.

EXPLORATION

YEAR II

1. To provide exploration at the AVT school for ½ day a week for the two seventh grades at the Lowell and seventh and eighth grades at the Most Precious Blood School.

2. To provide "hands on" activities at the Lowell school, ½ day a week for grade 6 from Most Precious Blood.

3. To continue objetive #3 from year I, but to have the rostering of the shop exploration on the ranking of each student's vocational interest obtained during the 1974 admission process.

4. To provide every student at the Dobbins AVTS an opportunity to use "VICS."

5. To provide 80% of a counselor's time for the 9th grade class at Dobbins.

6. To expand objective 6 (year I) to include grade 5 at Most Precious Blood.

7. To interface the C.E. Activities being developed by the academic teachers with the exploration activities already being used by the vocational staff at Dobbins.

8. To provide three simulations for classroom use, jointly developed by O. S. U. and S. D. P.

9. To provide exploration activities through the use of a Mobile Laboratory.

MANAGEMENT OBJECTIVES

YEAR III EXPLORATION 7-9

1. To provide "hands on" acitities at the Lowell School, one-half day a week for grade six from Most Precious Blood School.

2. To roster the students, in the Dobbins ninth grade class, based on the ranking of each one's vocational interests obtained during the admission process.

3. To provide every student at the Dobbins AVT School an opportunity to use "VICS".

4. To provide eight additional simulations for classroom use.

5. To provide 80% of a counselor's time for the ninth grade class at the Dobbins AVT School.

6. To provide exploration activities through the use of a Mobile Career Development Lab.

PREPARATION

YEAR I

1. To provide a skill development program on the following clusters:
   - Metals
   - Graphic-communications
   - Clerical

2. To provide a tenth grade student selecting participation in the cluster program diversified and specialized training within each cluster.

3. To provide students in the Metals Cluster training for entry level skills in the following areas:
   - Machine shop
   - Welding
   - Sheet metal
   - Foundry practice
   - Machine design

4. To provide students in the Graphic-Communications' Cluster training for entry level skills in the following:
   - Linotype
   - Letterpress
   - Hand-composition
   - Offset camera

5. To provide eleventh grade students in the Clerical Cluster with a laboratory type environment using individualized modules of instruction for the development of entry level skills.

PREPARATION

YEAR II

1. To provide a skill developemnt program in the following clusters:
   - Metals
   - Graphic-communications
   - Clerical

2. To provide a tenth grade student selecting participation in the cluster program diverified and specialized training within each cluster.

3. To place the Metals Cluster students from year I in a shop of their choice for specialization.
   To begin a new tenth grade Metals Cluster group.

4. Specialization for the eleventh grade students participating during year I.
   Expand the cluster concept to include all students taking printing courses.

5. To involve the 12th grade cluster in an office simulated experience.
   To provide **11th** grade students in the clerical cluster with a laboratory type environment using individualized modules of instruction for the development of entry level skills.

MANAGEMENT OBJECTIVES

YEAR III PREPARATION 10-12

1. To provide a skill development program in the following clusters:
   - Clerical
   - Metals
   - Graphic/Communications

2. To provide a tenth grade student, selecting participation, in the cluster program diversified and specialized training within each cluster.

3. To provide job placement services for the students in the Metals Cluster from year II.

   To place the Metals Cluster students from year I in a shop of their choice for specialization.

   To begin a new tenth grade Metals Cluster group.

4. To provide job placement services for students in the Graphic/Communications Cluster.

   Specialization for the eleventh grade students participating in the Graphic/Communications Cluster during year 11.

   Expand the cluster concept to include all students taking printing courses.

5. To involve the twelth grade Clerical Cluster in an office simulation experience

   To provide eleventh grade students in the Clerical Cluster with lab type environment, using individualized modules of instruction, for the development of entry level skills.

   To provide job placement service for the twelth grade Clerical Cluster students.

IV. PROJECT DESIGN AND COMPONENTS

PROJECT DESIGN
(General)

PROJECT DESIGN
(General)

ELEMENTARY LEVEL (K-8)

The elementary schools involved in the project infused career education concepts into their regular classroom structure. The Lowell Elementary School utilized the services of a career education team (two additional teaching positions) who developed classroom activities and worked with the regular classroom teachers on a rostered basis. Infusion at Most Precious Blood School was done by the classroom teachers with input and assistance from the Career Specialist. The classroom activities at Most Precious Blood School utilized additional resources from the Division of Career Education such as: Slide-tape programs, Pennscript and simulation modules developed in conjunction with the Alliance for Career Education. The Lowell School activities were conducted in the classrooms, technology labs and experience room by the classroom teachers and career education team.

Students from these schools participated in career oriented field trips to local business and industry. The students from grades three to six at Most Precious Blood School also utilized the Dobbins' AVT School for tours and individualized shop activities, with the career specialist.

Regular exploratory activities for two elementary schools consisted of the following:

1. Every Wednesday afternoon the sixth grade from Most Precious Blood and Lowell Schools would participate in career activities at the Lowell School. These were conducted by the career education team utilizing Lowell's Technology Labs.

2. Every Wednesday and Thursday mornings, students (Most Precious Blood 7th & 8th, Lowell 7th grades) from the elementary schools would go to Dobbins AVT School and be paired with a Dobbins' student who served as a peer-teacher in the shop areas. These students become involved in activities representative of the duties and tasks performed by people in the field for which the shop area offered training. Every student was exposed to a different vocational area each week. The morning's experiences would be concluded with a large group discussion, conducted by the Career Specialist

3 Students of both schools were taken on trips into the local work community; places of business have opened to the students; and parents and community people have served as speakers and even assisted with classroom activities.

SECONDARY LEVEL (Dobbins AVT School)

Every incoming ninth grade student at Dobbins is rostered to seven different shop areas for five weeks each. Rostering is done by the coordinator and career specialist using the vocational requests of the students, at the time of application to the school. Large group and individual meetings were held with the students to discuss career plans, vocational course woek, and future educational plans. The exploratory activities mentioned above were supplimented by rostering each ninth grader to at least a week in the Vocational Evaluation Center. This center utilizes the Singer Vocational Evaluation System, a VICS Terminal, Pennscript, and career literature. A full time teacher assigned to the program, supervises the center's activities.

At the tenth grade level students whose career goals are consistent with the metals, graphic communications and in the 11th grade level with business education clusters will participate in skill development activities of this nature. At the secondary level, attention will be paid to the changing concepts of skill development which encompass the development of occupational clusters and individualized instruction.

The Clerical Skills Lab is a program designed to prepare students for jobs as clerical workers. The instructional program takes place in a simulated office setting which provides students with modern office machines and audio-visual learning equipment. The students prepare for job entrance via individualized instructional packets which help them to acquire the necessary skills. These skills are then put to use in a simulated office experience program which utilizes work-flow procedures for a simulated company.

For students who elect the metals or graphic communications clusters, exposure to the following shops over a one-year period, with specializations taking place at a subsequent period, will occur. Metals shops are: foundry, welding, machine shop and sheet metal. Graphic-Communications shops are: hand composition, letterpress, offset press, linotype offset camera and commerical art.

Metals cluster pupils in the tenth grade will spend 10 weeks in the foundry shop, 10 weeks in the welding shop, 10 weeks in the machine shop and 10 weeks in the sheet metal shop. In the 11th grade pupils will have the opportunity to specialize. Based on the job market and his career desires, the pupil will increase his skills in the selected area. The pupil will then participate in a school-work program which will hopefully lead to full-time employment with his or her cooperative employer. After a metals cluster student has completed his 10th grade program, his progress will be evaluated. The coordinator of the shop in which the student wishes to spend his 11th and 12th years must give that student graduation credit for his 10th grade shops. It is the responsibility of the trade coordinator to require the progress committee to change the students' school records showing the new shop program

The Job Placement component functioned as the central source through which students obtained full and part-time employment. The Job Placement Officer received calls made to the school by employers, developed new employer contracts,and processed and filled both permanent and short term jobs. Additionally this person promoted and generated jobs in the business community through personal visits, telephone solicitation, community newspapers and contact with business organizations. This service was established primarily for the students participating in the Cluster Program but was opened to the entire student body at the Dobbins AVT School.

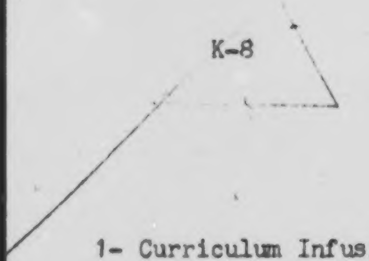
COMPREHENSIVE CAREER EDUCATION MODEL K-14

MAJOR OBJECTIVES:

1- To increase self awareness
2- To promote career awareness
3- To provide career exploration
4- To provide skill development in business, metals, and graphic-communications
5- To provide job placement

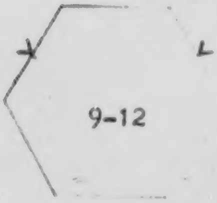
SCHOOLS AND ACTIVITIES

MOST PRECIOUS BLOOD PAROCHIAL SCHOOL



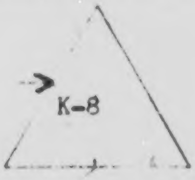
1- Curriculum Infusion
2- Slide-Tape Programs
3- Pennscript
4- Career Planning System
5- Simulation Modules
6- Field Trips
7- Exploratory Visit to Dobbins AVT School- ½ day per week for the seventh and eighth grades. (grade 8- Sept. to Dec. & grade 7- Feb. to May)
8- Exploratory Visit to the Lowell Elementary School by grade six- ½ day per week to use the Technology Labs with the sixth grade class at Lowell.
9- Classroom Use of Commercial Career Materials.

DOBBINS AVT SCHOOL



1- Ninth Grade Trade Exploratory Class.
2- Cluster Programs:
   a- Metals
   b- Graphic Communications
   c- Clerical Skills Lab
3- Vocational Evaluation & Exploration Center.
4- VICS- Vocational Information Computer System.
5- VEIN- Vocational Education Information Network
6- Job Placement Officer
7- Elementary Exploration at Dobbins

LOWELL ELEMENTARY SCHOOL



1- Career Education Team
2- Experence Room
3- Technology Labs
4- Curriculum Infusion
5- Field Trips
6- Exploratory Visit to Dobbins AVT School- ½ day per week for the seventh grades.
7- Exploratory visit by Most Precious Blood students.

STAFF DEVELOPMENT

STAFF DEVELOPMENT

Staff Development was provided for the teachers and administrative personnel from the three schools. The inservice format involved large group sessions and individual conferences with teachers. The role of the project administration was to provide information for implementation follow-up after the program's inception. Some of the considerations here were:

*What is career education?

*The need for career education

*Instructional strategies

- classroom activities

- use of speakers and field trips

- resource materials available

*Objectives development and lesson development

*Incorporation and utilization of existing instructional packages.

*Career Clusters

*Organizating centers for career education based upon the developmental level of the child.

Each school was handled differently, at the James Russell Lowell Elementary Public School (K-8) there was a full time team consisting of four teachers working with the rest of the instructional staff. This team, headed by the principal, met with the project administration and staffs' of the other project schools. These team members were instructed in the basic concepts of career education and the methods for classroom implementation at various grade levels. Additionally, articulation between the secondary and elementary levels was stressed to provide a continuity between the experiences at the area vocational-technical school and the sending elementary school. Each teacher was provided with visitation time at the AVT School when the elementary school students were there. This experience provided the teachers with an on-site learning experience. The Lowell Elementary team memebers also conducted staff development sessions for their entire faculty, to explain how they would develop activities to be used in each classroom, and this was followed by demonstration lessons and one to one conferences. In the beginning the team conducted career education activities in each classroom. The instructional processes were transferred to the teacher and presently each teacher conducts their own class, infusing career education concepts into their regular activities.

Career education at the Lowell Elementary School was based on the technology for children project and involved training the teacher so that they acquired competencies related to the use of tools at all grade levels. Many of the projects which were pursued, put the children in career simulations which involved them in the roles of the workers. The activities were generated through a need analysis at the school. Again this necessitated the teachers being trained as a management team which supervised the "life centered" activities of the students.

The Most Precious Blood Parochial Elementary School (K-8) utilized the existing staff of the school for the inclustion of career education into their regular structure. Inservice training at this school was initiated in two phases; an instructional phase and aninter-activie phase. The instructional phase consisted of giving the staff a theoretical conceptual base for career education. The project administration provided each participant with the following:

- A defination of career education
- Tasks delinated by the proposal
- An overview of the cluster concept
- Sample activities and objectives generated by other programs
- Procedures for the development of behavioral objectives
- Sample formats for lesson development
- Lists of resources available to them (other outside locations, books, pamphlets, ERIC searches, equipment, etc.)

The inter-active phase involved weekly meetings between the teachers and the project staff and focused on the instructional process in the classroom. Sample lessons were demonstrated for the teachers and their suggestions for lessons were discussed and evaluated collectively. This process allowed for a maximum amount of experience impact for the teaching staff, which has proved successful in changing the instructional emphasis for each teacher involved. Utilizating the available instructional resources, the teachers were directed to develop and try career education strategies. They reported back to the project administration and peer group as to their results. This interaction provided the basis for future one to one sessions with each of the participants.

Additionally the AVT school was utilized as an extention of the home school classroom at all levels. Followup strategies were planned for use at the home school.

Inservice training at the Dobbins Area Vocational-technical School (-12) involved all aspects of the instructional staff. Sessions were held to accomplish the following objectives:

VOCATIONAL TEACHERS

To develop instructional activities appropriate for exploratory visits by elementary students.

The approach was to present a lesson format and overview of activities to be undertaken by elementary students. The establishment of "student teachers" was central to this process with various procedures for their incorporation into the program.

To develop instructional guides which would allow a traditional AVT school to use a "cluster approach" in the Metals and Graphic-communications areas.

Two teachers were identified as the chairpersons of the respective clusters. Each was acquainted with various curriculum materials and books that lent themselves to this concept. This involved the training of the teachers in the use of materials which allowed the student to acquire skills on an individualized basis.

To develop a scope and sequence for a five week exploration program in twenty-two vocational areas for the ninth grade students.

Each participating vocational teacher at the school was given instructions related to the development of a total curriculum package. The individual activities and projects were then reduced to a scope and sequence illustrtive of the overall five week program.

ACADEMIC TEACHERS

To utilize instructional materials, and to develop strategies for the infusion of career education concepts into the regular curriculum.

Fifteen teachers were selected, representative of the various disciplines taught at the school. Each participant was given inservice instruction related to: 1) The use of self-contained materials developed at Ohio State University and 2) strategies that would emphasize career education in their regular classroom activities. Ohio State Material provided a good beginning upon which each could expand their plans to include a career education thrust.

CURRICULUM INFUSION

COMPREHENSIVE CAREER EDUCATION MODEL K-14

Murrell Dobbins Area Vocational-technical School
James Russell Lowell Elementary School
Most Precious Blood Parochial Elementary School

Infusion of Career Education Concepts into Curricula Area

The Comprehensive Career Education Model K-14 program has endeavered since its conception to use an infusing process between career development concepts and subject area disciplines, thus permitting a system which develops a relevancy of education. (Relevancy of education should, at this point, be defined as the degree of inter-action between school and the world of work.) If we accept the basic premise of career education that children should evolve through an awareness stage to an exploration stage, to specialization stage than this will develop a useful and meaningful existence in the future for the children of today.

We feel that the techniques of teaching should not be changed but an input of occupational career development should be infused into the already accepted, successful currula.

The process of development for career-curriculum lessons seems to follow three basic steps:

Selection of the skill content area to be covered, which is a topic or performance object extracted from the subject curriculum.

The selection of related occupation(s) in which a person used the skills from the subject content area in the performance of his/her occupational duties.

The classroom activities which incorporate the two.

Please examine the attached occupational listings related to a specific subject area and an outline form using the three steps from above.

SKILL/CONTENT AREA	RELATED OCCUPATION	LIFE CENTERED (CLASSROOM) ACTIVITY
(1) Addition and Subtraction of decimal numbers.	Accountant Bookkeeper	Using accounting sheets, have students add a series of numbers. If credits and debits are separate, have students find difference for profit or loss.
(2) Raising (reducing) to higher (lower) terms.	Cook	Double (halve) recipes.
(3) Scale drawing	Architect, Draftsman	Make a scale drawing of the classroom, school, etc.
(4) Measurement	Carpenter, Custodian	Measure windows, doors, etc. for possible replacement.
(5) Area	Bricklayer	Determine the number of bricks needed to complete a wall of a specific length and height.
(6) Statistics - Graphs	Weather Forecaster	Recording weather changes in graphic form over a specific period of time.
(7) Duodecimal System (base 12)	Stock person	Record quantities in terms of "gross", "dozens" and "units".
(8) Interest	Loan Officer (Bank)	Computation of interest given principal, rate and length of loan.
(9) Percent	Salesman	Computing commission for a specific amount and rate of commission.
(10) Ordering decimal numbers	Librarian	Arranging library cards, or books, using the Dewey Decimal System.
(11) Modular Math	Naval Officer Airline Pilot	Figure time differences encountered on trips using a 12 and 24-hour clock.
(12) Flow Chart	Computer Programmer	Make a Flow Chart of the day's activities.
(13) Equivalents in liquid measure	Laboratory Technician	Comparisons of liquid measure—using cups, gallons, pints, etc.

1 SERVICE	2 BUSINESS-SELLING	3 WHITE-COLLAR WORK	4 ENGINEERS-REPAIRMEN TECHNICIAN	5 OUTDOOR	6 SCIENCE	7 CULTURAL	8 ARTS & ENTERTAINMENT
Claims Adjuster Dentist Custodian Teacher Librarian Nurse, Anesthetist Optometrist School Attendance Worker Taxi Driver Veterinarian Waiter Waitress Assessor Tax Collector City Managers	Auto Parts Salesman Buyer Insurance Agent (Salesman) Real Estate Salesman Route Salesman Auto Salesman Underwriter	Accountant Actuary Air Traffic Controller Airline Dispatcher Airline Ticket Agent Bank Cashier Bank Teller Bank Clerk Bookkeeper Cashier Certified Public Accountant Computer Programmer Food Store Manager Marketing Research Workers	Air Pollution Control Engineer Cabinet Maker Carpenter Chemical Engineer Laboratory Technician (Chem.) Dental Laboratory Technician Home Economist Mathematician Medical Laboratory Technician Meteorologist Oceanographer Pharmacist Broadcast Technician Electrician Ironworkers Plumbers Instrument Repairmen Tool and Diemakers	Archeologist Ecologist Forestry Technician Hydrologist Landscape Architect Petrologist Surveyor Geologist Range Managers	Anthropologist Astronomer Audiologist Biochemist Chemist Dental Laboratory Technician Home Economist Mathematician Medical Laboratory Technician Meteorologist Oceanographer Pharmacist	Teacher (Kindergarten) Library Assistant Sociologist Urban Planner Economist Historians Political Scientist	Architect Script Writer (TV)

ELEMENTARY CAREER EXPLORATION
IN AN
AREA VOCATIONAL-TECHNICAL SCHOOL

COMPREHENSIVE CAREER EDUCATION MODEL K-14

ELEMENTARY LEVEL VISIT
at
AREA VOCATIONAL-TECHNICAL SCHOOL

Dobbins Area Vocational-Technical School
7th Grade Students -- Lowell Elementary School
8th Grade Students -- Most Precious Blood Parochial School

GENERAL DESCRIPTION

During each visit, which will be one and one-half hours long a senior Dobbins student will be paired with an elementary student. The elementary student will be exposed to the shop classes of their Dobbins counter-part.

OBJECTIVES - GENERAL

1. To provide each elementary student an opportunity for a "hands-on" experience, at the AVT School.

2. To enable an elementary student, through participation, to experience a high school structure.

BEHAVIORAL OBJECTIVES

For each shop the elementary student attends - he/she should be able to state, in written form, the following:

1. At least two (2) safety procedures in effect in each shop.
2. If the work participated in is clean or dirty.
3. At least one hand tool used in the shop.
4. At least one machine used in the shop
5. At least three jobs for which students within the shop acquire training.

Elementary Level Visit

The following is a list of specific activities and experiences the elementary student will have in each of the participating shops at the Dobbins AVT School.

SHOP	ACTIVITIES
AUTO MAINTENANCE CHASSIS SHOP	1. Remove and replace an axle 2. Using a lug wrench - remove and replace a wheel
BODY SHOP	1. Proper masking of a chrome strip 2. Paint Preparation
COSMOTOLOGY	1. Pin-curling - types and techniques (Due to state law, activities in this shop are limited).
BUSINESS EDUCATION	Elementary student works along with the B.E. students in their shop
TYPING	Basic manipulation of a manual typewriter keyboard
COMMERICAL ART	Drawing of an interest subject
CARPENTRY BASIC	1. Starting with a piece of rough stock - the student, through a hand process, will square the stock using a plane, ruler, square and marking gauge 2. Assist the Dobbins student with a project
INDUSTRIAL ELECTRICITY	1. Theory and practice of Bell Circuit wiring. 2. Stripping of insulation from a wire 3. Splicing of wire - pigtail and "T" splices 4. Proper soldering techniques with splices
FOUNDRY	Making a sand mold - to the point of casting
MACHINE DESIGN	Layout of margin using a "T" square
PLUMBING	Assembly of small pipe fittings - using hand wrenches

lementary Level Visit

SHOP	ACTIVITIES
PRINTING OFFSET CAMERA	1. Making a negative 2. From the above negative, the student will make a positive print
LINOTYPE	1. Setting of student's name on a Linotype Machine 2. Using a proof press
HAND COMPOSITION	1. Setting of students name in Ludlow Type 2. Using a proof press
RESTAURANT PRACTICE	1. Proper setting of table 2. Preparation of food
SHEET METAL	1. Cutting sheet metal with a shear 2. Bending sheet metal on a brake
WELDING ARC, GAS	1. Proper use of safety equipment 2. Demonstration of welding equipment (The activity in this shop will be limited to observation - due to safety considerations).

NOTICES SENT TO INSTRUCTORS REGARDING THE EXPLORATORY ACTIVITIES OF THE ELEMENTARY STUDENTS IN THEIR SHOPS AT THE AVT SCHOOL

SHOP TEACHERS-NOTICE

We will be starting a new Comprehensive Career Education Program this week. Each Wednesday and Thursday 8th grade students from the Most Precious Blood and the Lowell Elementary School will be in your shop from approximately 9:35 to 11:08 a.m. These students, are here at Dobbins to gain background knowledge for their future career choices.

You will play host to no more than two of these students at each visit. We suggest that you handle these career education students in the following manner:

1. Pair the career education student coming into your shop with one of your better shop student.
2. Let the career education student play apprentice to your student.
3. Try to provide the career education student with some "Hands-on" experience in your shop area.
4. Please prepare your class for the entry of a "Elementary School Student" into the high school environment.

Any problems that might arise should be immediately referred to the Comprehensive Career Education Office here at Dobbins. We are located in room 103, our phone number is 376.

We count on your enthusiastic cooperation for this program. Its success will ultimately help Dobbins.

Edward Magliocco

JOHN R MAIER
Project Coordinator

DOBBINS AVT SCHOOL
COMPREHENSIVE CAREER EDUCATION
MODEL K-14

October 5, 1973

On Monday, October 1st, a notice was sent to you regarding visitation to your shops by elementary students from the Most Precious Blood and the Lowell Elementary Schools.

PLEASE DO THE FOLLOWING:

1. Identify one, or two, of your better shop students who will be assigned to work with the visiting students.
2. Send the shop student(s) to room 103 at 9:30 a.m. to meet and escort the elementary students to the shop, each Wednesday and Thursday morning. Your shop student will return the elementary student to room 103 at 11:08 a.m.

THE ABOVE WILL OCCUR EACH WEEK UNTIL FURTHER NOTICE IS GIVEN.

On Tuesday, October 9th, I would like to meet the shop students who will be involved in this program at 9:30 a.m. in room 103 for an orientation session.

Edward Magliocco
Principal

John Maier
Project Coordinator

JM:gl

STUDENT RESPONSE FORM

COMPREHENSIVE CAREER EDUCATION MODEL K-14

DATE____________________

STUDENTS NAME___________________________________

check school ( ) Most Precious Blood ( ) Lowell

SHOP VISITED ___________________________________

Name of Dobbins Student____________________________

Please answer the following questions:

1. Write at least two safety procedures you observed.

   (1)

   (2)

2. Was the work in the shop clean_______ dirty_______

3. Name at least ONE HAND TOOL used in the shop

4. Name at least ONE POWER MACHINE used in the shop

5. Name three jobs for which this shop offers training.

   (1)

   (2)

   (3)

6. Would you say this shop was (check one)
   ( ) INTERESTING ( ) NOT INTERESTING

7. What did you do in this shop?

   ( ) watched other students work

   ( ) worked along with other students

   ( ) worked alone

   ( ) nothing

   ( ) other - please explain

8. Do you want to go back to this shop ( ) yes ( ) no?

9th GRADE
CAREER EXPLORATION PROGRAM

TRADE EXPLORATORY

TX

--Chinese Proverb--
"I hear, and I forget"
"I see, and I remember"
"I do, and I understand"

Trades Exploration (TX) is an orientation program designed to place a student into eight different shop experiences within the first year of his/her high school education at Dobbins. Three of the shops are those of the student's choice, while the remaining five are selected by the TX Coordinator in order to give each student the greatest variety of experiences possible. The student is then asked, at the end of this first year, to select the area in which he wishes to receive extensive training for a future vocation.

Justification for an occupational orientation program at the early high school level is associated with the needs of this age group. Youth at this age are required to make crucial educational decisions which will have an important influence on their later occupational life.

Many students at this age lack first-hand knowledge of the world of work; therefore, they need experiences which will supply this knowledge both directly and vicariously. They have not had opportunities to explore their capabilities in various areas under a variety of situations; therefore, they need opportunities to self-appraise their emerging potentials. This age group is characterized by a lack of self-confidence; a need then, is for experiences which tend to build self-assurance in the developing personality.

The "TX" program, through a total involvement within a variety of experiences, attempts to respond to the needs of it's students and lay a solid foundation of understanding from which they will be able to select specific programs in preparation for a future occupation.

9th Grade Trade Exploratory Program At

DOBBINS

AREA VOCATIONAL-TECHNICAL SCHOOL

- AIR CONDITIONING & HEATING
- ARCHITECTURAL GRAPHICS
- AUTOMOTIVE MAINTENANCE
- BAKING
- BUSINESS EDUCATION
- CARPENTRY
- COMMERCIAL ART
- COSMETOLOGY*
- ELECTRICITY
- ELECTRONICS

* Not Available to 9th Grade Students

- FOUNDRY PRACTICE
- INDUSTRIAL CHEMISTRY
- MACHINE DESIGN
- MACHINE SHOP
- PATTERNMAKING
- PLUMBING
- PRINTING
- RESTAURANT PRACTICE
- SHEET METAL
- WELDING (GAS AND ELECTRIC)

EXPLORE ... DIFFERENT VOCATIONAL AREAS IN THE 9TH GRADE

SPECIALIZE ..... IN A CHOSEN VOCATION

EARN ..... A STANDARD HIGH SCHOOL DIPLOMA

PREPARE .... FOR A REWARDING CAREER

**For information visit Dobbins Area Vocational-Technical School,
Twenty-Second Street at Lehigh Avenue, or call BA 9-6800**

VOCATIONAL EVALUATION CENTER

COMPREHENSIVE CAREER EDUCATION MODEL K-14

VOCATIONAL EVALUATION CENTER

1. MISSION

1.1 The Vocational Evaluation Center provides the ninth grade Dobbins students hands-on experience in ten (10) distinct trade areas. These experiences are provided thru individualized audio-visual programs on ten (10) Singer-Graflex work stations. The students are given the opportunity to complete the ten jobs and their performance on each job is evaluated and recorded.

1.2 The effect of the hands-on experience in the evaluation center upon the Dobbins student is to provide him or her with a firmer base for their career decision. The student performance data collected, is used to verify student shop choice. Students who have shown poor performance in a shop area are counseled to areas in which they exhibited higher performance.

1.3 The Vocational Evaluation Center also includes the Dobbins VICS terminal. VICS (Vocational Information thru Computer Systems) is a computerized career information system. The VICS terminal is made available to all students as requested.

2. OPERATION

2.1 Ninth grade students are demand scheduled for Vocational Evaluation, as space is available in the evaluation center. The student normally spends from 1 3/4 to 2 1/2 hrs. completing a job in the evaluation center for a total of ten days.

2.2 Eighth grade students are scheduled into the evaluation center during their weekly visitation at Dobbins, to complement career awareness thru hands-on jobs. The elementary students are not evaluated.

2.3 VICS terminal use (time) is requested by individual students, or arranged by counselor recomendations.

2.4 Student records* are maintained for all transactions. There is a file folder enclosing all evaluation reports and a summary sheet for each ninth grade student served. VICS records are maintained and stored within the computer system. They are retrievable at the terminal.

3. FACILITY

3.1 The Vocational Evaluation Center is located in room 512 at Dobbins AVT School. The room contains:

1 - Drafting Station

1 - Electrical Station

1 - Plumbing Station

1 - Carpentry Station

1 - Refrigeration/Air Conditioning Station

1 - Solder & Welding Station

1 - Office Practice Station

1 - Sheet Metal Station

1 - Food Preparation Station

1 - Small Gasoline Engine Station

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* For Dobbins Students

CLUSTER PROGRAM

THE CLUSTER PROGRAM

This component was intended to revitalize the vocational education program by implementing a curriculum that can be used by all area vocational-technical schools in the Philadelphia area. This utilized a cluster curriculum that best prepared our students for a technological society which is ever changing and thus requires a variety of skills which relate to a cluster of occupations. Each sub-component of the program worked in concert with and utilized the resources of specific programs and agencies in the vicinity of the metropolitan area which share related objectives and activities or which have something to offer to vocational education.

Students that had expressed an interest in the metals, graphic-communications, or business areas were selected to participate in the cluster program. They were given individualized instruction in a skills development program during their 10th grade year. Students had the opportunity to develop salable skills in a variety of vocational areas, within a cluster, that would enhance their employability.

At the tenth grade level students whose career goals were consistent with the metals, graphic-communications and in the 11th grade level with business education clusters participated in skill development activities of this nature. At the secondary level, attention was paid to the changing concepts of skill development which encompassed the development of occupational clusters and individualized instruction.

The Clerical Skills Lab program was designed to prepare students for jobs as clerical workers. The instructional program took place in a simulated office setting which provided students with modern office machines and audio-visual learning equipment. The students prepared for job entrance via individualized instructional packets which helped them to acquire the necessary skills. These skills were then put to use in a simulated office experience program which utilized work-flow procedures for a simulated company.

For students who elected the Metals or Graphic-communications Cluster, exposure to the following shops over a one-year period, with specializations taking place at a subsequent period, occurred. Metals shops were: foundry, welding, machine shop and sheet metal. Graphic-communications shops were: hand compositon, letterpress, offset press, linotype, offset camera and commerical art.

Metals cluster pupils in the tenth grade spent 10 weeks in the foundry shop, 10 weeks in the welding shop, 10 weeks in the machine shop and 10 weeks in the sheet metal shop. In the 11th grade pupils had the opportunity to specialize. Based on the job market and his career desires, the pupil increased his skills in the selected area. The pupil then participated in a school-work program which would hopefully lead to full-time employment with his or her cooperative employer. After a metals cluster student had completed his 10 grade program, his progress was evaluated. The coordinator of the shop in which the student choose to spend his 11th and 12th years would give that student graduation credit for his 10th grade shops. It was the responsibility of the Trade Coordinator to require the Progress Committee to change the students' school records showing the new shop program.

For students who elected the Graphic-communications Cluster exposure to the following shops over a one and one half year period with specialization taking place at the subsequent period. Those shops were hand composition, letterpress, offset press, linotype, offset camera and commerical art. Pupils in the tenth grade spent 10 weeks in hand composition, 10 weeks in letterpress, 10 weeks in offset press and 10 weeks in linotype. In the eleventh grade, the students spent 10 weeks in offset camera and 10 weeks in commerical art, and 20 weeks in the shop of their choice. In the twelfth grade pupils had the opportunity to specialize. Based on the job market and his or her career desires the pupil increased his skills in the selected area for 40 weeks. The pupil then participated in a school work program which hopefully lead to full-time employment with his or her cooperative employer

Students were enrolled for person-centered vocational training rather than stratified grade levels. The objective is to prepare for employment or further education. Guidance services included assessment, evaluation, placement services and follow-up.

Using the Skill Mastery Sheets, as reference, a method of instruction was utilized that provided enough material to sufficently cover the subject areas within the ten weeks alloted. This allowed for the cycling of instruction for each new group of students (without interfering with the regular vocational students in the class) and provided for individualized self-paced progress. The teachers were asked to suggest various methods that would accomplish the stated task objectives indicated by the Skill Mastery Sheet. Generally there were several approaches that were effective: 1) the use of individualized Audio-visual Sound on Slide curriculum material developed by the School District of Philadelphia; 2) use of textbooks within each shop area, supplemented by practical experience through projects; 3) the use of a peer teaching technique where an advanced student assists a cluster student; 4) small group rostering giving the students themselves an opportunity to help each other; 5) small group discussion periods with the cluster chairperson. The most successful method was the implementation of the Sound on Slide curriculum material in the Sheet Metal Shops and Machine Shops. This material allowed the students involved to cover specific activities at their own pace and not require the attention of the instructor, except for questions and supplementary instructions. It should be noted that the implementation of this material was limited to those two shops due to the unavailability of units for other shop areas within the Metals and Graphic-communications Clusters. The reaction to the individualized materials was favorable from the instructors and students involved. One of the teachers who had originally expressed a hesitation for using the Sound on Slide units, became enthusiastic about their usefulness after using them.

The changing of the structure of a vocational classroom is difficult to say the least, but through the efforts of the cluster chairperson and the teachers involved this was accomplished. Much of the burden for the success of the program rested on the shoulders of the chairperson who performed many varied duties such as student selection, rostering, small group discussion leader, curriculum organizer and facilitater, recording grades, trips and final shop placement.

CLUSTER COMPONANTS
10 - 12

METALS
GRAPHICS
CLERICAL

COMPREHENSIVE CAREER EDUCATION MODEL K-14

METALS CLUSTER

AREAS INVOLVED IN THE PROGRAM:

Sheet Metal - A. Newsham, room 517 (Chairman)

Foundry - G. Smith, annex bldg.

Welding - A. Ambrosano, room 425

Machine Shop - H. Grossman, room 519

Machine Design - W. Haury, room 511

GENERAL SCHEDULE FOR CLUSTER STUDENTS:

Each group of students will experience training in each of the shops for one report period during the tenth and eleventh grades. Specialization in the shop of their choice will constitute the last segment of their cluster training during this time. All shop time spent in the twelfth grade will be in the area of specialization which the student has chosen.

A. SKILLS TO BE LEARNED IN EACH OF THE SHOPS

1. Sheet Metal

    a. Safety procedures
    b. Work with others
    c. Interpreting sketches and written orders
    d. Knowledge of metal characteristics
    e. Operation of bending and forming machines
    f. Operation of cutting machines
    g. Development of basic patterns
    h. Shop organization and procedures
    i. Fabrication of air handling systems
    j. Introduction to all phases of pattern development

2. Foundry

    a. Safety procedures in the foundry

        1. To wear steel toe shoes and long sleeve shirts
        2. How to blow sand away from eyes
        3. Correct way to lift, bend and turnover mould

b. Pouring procedures

1. Correct equipment and how to wear it
2. Correct way to pour mould
3. Correct way to carry molten metal
4. What to do in case molten metal busts out
5. Correct way to get rid of excess metal

c. Moulding procedures

1. How to mix sand
2. How to make simple flat back mould
3. How to make cores
4. How to use cores
5. How to make two part jobs
6. How to make floor jobs
7. How to make floor jobs with cores
8. How to gate rison and part jobs
9. How to make hidden part jobs
10. How to degate and clean jobs
11. How to use grinding wheel and sand-blaster

3. Welding

PART I. Oxy-acetylene Process

Orientation:

1. Oxy-acetylene welding defined.
2. Brief history of process.
3. Identifying potential hazards.
4. General scope of application.
5. Opportunities in trade (motivation).
6. Welding terminology.

Unit A. - Assembling and setting up equipment

1. Safety precautions.
2. Functions of regulators, hoses, torch.
3. Properties of oxygen and acetylene.
4. Safe and proper handling of cylinders.
5. Adjusting pressures.

Unit B. - Lighting and adjusting torch.

1. Study of neutral, carbunizing, oxidizing flames.
2. Backfires, flashbacks, - causes and corrective measures.

Unit C. - Adjusting regulators.

1. Function of regulator screw
2. Opening and closing of cylinders.

Unit D. - Torch manipulation

1. Proper method of holding torch
2. Position and motion of torch.
3. Carrying puddle without filler rod.
4. Laying beads with a filler rod.
5. Angle of rod in relation to angle of torch.
6. Travel speed.

Unit E. - Related instructions - (lecture and/or demonstration)

1. Testing for leaks.
2. Selection of filler rod
3. Importance of keeping welding area clean
4. Importance of wearing proper clothing

PART II. Arc Welding

Orientation:

1. Arc welding defined.
2. Scope of application
3. Employment opportunities (motivation).
4. Safety precautions
5. Welding terms specific to arc welding.

Unit A. - Machines and equipment

1. D.C. machines
2. A.C. machines
3. Rectifiers
4. Cable (ground-electrode).
5. Electrode holder

Unit B. - Electrodes

E6010
E6012
Polarity factor

Unit C. - Personnal equipment

1. Face shield (inserting & removing dark glass).

2. Importance of wearing a) work cap, b) work shirt & pants with no cuffs, c) work shoes, d) gauntlet type gloves.
3. Safety glasses.

Unit D. - Essentials for proper welding procedures

1. Correct electrode size
2. Correct current
3. Correct arc length
4. Correct travel speed
5. Correct electrode angle

Unit E. - Adjusting machine

1. Setting desired polarity switch
2. Setting control unit for desired amperage.
3. Turning "on" switch.

Unit F. - Striking an arc

1. Tapping method
2. Scratching method.

Unit G. - Running short beads.

Unit H. - Running continuous beads.

Unit I. - Weaving between two (2) straight beads.

4. Machine Shop

a. Safety proceedures

   1. Eye protection
   2. Shoes and clothing
   3. Machine guards

b. Good Housekeeping

   1. Tool crib care
   2. Keeping equipment clean and oiled.
   3. Keeping floors clean of dirt and oil

c. Reading simple two view drawings

d. Reading and using a scale (ruler) and micrometer

   1. turning to fractional diameters

2. Turning to decimal diameters
3. Chasing a thread to fit a quage

e. Setting up an engine lathe for ....

1. Turning (tool grinding)
2. Threading
3. Grooving
4. Chamfering

f. Setting up a shaper

1. Machining a work-piece square and to size
2. Checking with a solid square

g. Using layout tools

1. Combination square
2. Protractor
3. Scriber

h. Using hand tools

1. Hammers
2. Prick and centre punches
3. Scribers
4. Hack saws (also power)

i. Surface grinder

1. Wheel dressing
2. Flat grinding

j. Simple drill press operation

k. Do-all bandsaw

1. Welding a bandsaw blade
2. Some contour sawing

5. Machine Design - Based on one (1) report period in Machine Design. Assuming no previous drawing experience.

a. Use of scale and other instruments
b. Basic drawing (lines, drawing, guide, construction)
c. Lettering (vertical gothic capitals)
d. Applied geometry (arcs in angles, etc.)
e. Orthographic projections (3 view drawings)
f. Dimensioning.

Student with previous drawing experience will be given a brief review and continue from demonstrated level of skill. Safety precautions are not applicable to this trade.

METALS CLUSTER

STUDENTS NAME: ______________________________ BOOK # ________

DATES: FROM __________ TO __________

SHEET METAL

S	U	
		a. Safety procedures
		b. Work with others
		c. Interpreting sketches and written orders
		d. Knowledge of metal characteristics
		e. Operation of bending and forming machines
		f. Operation of cutting machines
		g. Development of basic patterns
		h. Shop organization and procedures
		i. Fabrication of air handling systems
		j. Introduction to all phases of pattern development

TEACHER COMMENTS:

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Teacher Signature

METAL CLUSTER

STUDENT NAME: ____________________________ BOOK# ________

DATES: FROM __________ TO __________

FOUNDRY

S	U	
		A. Safety procedures in the foundry
		1. To wear stell toe shoes and long sleeve shirts
		2. How to blow sand away from eyes
		3. Correct way to lift, bend and turnover mould

S	U	
		B. Pouring procedures
		1. Correct equipment and how to wear it
		2. Correct way to pour mould
		3. Correct way to carry molten metal
		4. What to do in case molten metal busts out
		5. Correct way to get rid of excess metal

S	U	
		C. Molding procedures
		1. How to mix snad
		2. How to make simple flat back mould
		3. How to make cores
		4. How to use cores
		5. How to make two part jobs
		6. How to make floor jobs
		7. How to make floor jobs with cores
		8. How to gate rison and part jobs
		9. How to make hidden part jobs
		10. How to degate and clean jobs
		11. How to use grinding wheel and sand-blaster

TEACHER COMMENTS:

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Teacher Signature

METALS CLUSTER

STUDENT NAME: ______________________________ BOOK# __________

DATE: FROM __________ TO __________

WELDING

PART I OXY-ACETYLENE PROCESS

S	U	Orientation:
		1. Oxy-acetylene welding defined
		2. Brief history of process
		3. Identifying potential hazards
		4. General scope of application
		5. Opportunities in trade (motivation)
		6. Welding terminology

S	U	UNIT A -- ASSEMBLING AND SETTING UP EQUIPMENT
		1. Safety precautions
		2. Functions of regulators, hoses, torch
		3. Properties of oxygen and acetylene
		4. Safe and proper handling of cylinders
		5. Adjusting pressures

S	U	UNIT B -- LIGHTING AND ADJUSTING TORCH
		1. Study of neutral, carbunizing, oxidizing flames
		2. Backfires, flashbacks, - cause and corrective measures

S	U	UNIT C -- ADJUSTING REGULATORS
		1. Function of regulator screw
		2. Opening and closing cylinders

S	U	UNIT D -- TORCH MANIPULATION
		1. Proper method of holding torch
		2. Position and motion of torch
		3. Carrying puddles without filler rod
		4. Laying beads with a filler rod
		5. Angle of rod in relation to angle of torch
		6. Travel speed.

S	U	UNIT E -- RELATED INSTRUCTIONS (LECTURE AND/OR DEMONSTRATION)
		1. Testing for leaks
		2. Selection of filler rods
		3. Importance of keeping welding area clean
		4. Importance of wearing proper clothing

TEACHER COMMENTS:

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Teacher Signature

METALS CLUSTER

STUDENT NAME: ______________________________ BOOK# ________

DATES FROM __________ TO __________

WELDING

PART II ARC WELDING

S	U	Orientation
		1. Arc welding defined
		2. Scope of application
		3. Employment opportunities (motivation)
		4. Safety precautions
		5. Welding terms specific to arc welding

S	U	UNIT A -- MACHINES AND EQUIPMENT
		1. D.C. machines
		2. A.C. machines
		3. Rectifiers
		4. Cable (ground-electrode)
		5. Electrode holder

S	U	UNIT B -- ELECTRODES
		E6010
		E6012
		Polarity factor

S	U	UNIT C -- PERSONNAL EQUIPMENT
		1. Face shield (inserting & removing dark glass)
		2. Importance of wearing; work cap, work shirt & pants with no cuffs, work shoes, gauntlet type gloves.
		3. Safety glasses

S	U	UNIT D -- ESSENTIALS FOR PROPER WELDING PROCEDURES
		1. Correct electrode size
		2. Correct current
		3. Correct arc length
		4. Correct travel speed
		5. Correct electrode angle

S	U	UNIT E -- ADJUSTING MACHINE
		1. Setting desired polarity switch
		2. Setting control unit for desired amperage
		3. Turning "on" switch

S	U	UNIT F -- STRIKING AN ARC
		1. Tapping method
		2. Scratching method

PART II ARC WELDING (continued)

S	U	
		UNIT G -- RUNNING SHORT BEADS
		UNIT H -- RUNNING CONTINUOUS BEADS
		UNIT I -- WEAVING BETWEEN TWO (2) STRAIGHT BEADS

TEACHER COMMENT:

Teacher Signature

STUDENT NAME: ______________________________ BOOK# __________

DATES FROM __________ TO __________

MACHINE SHOP

S	U	Safety Procedures
		1. Eye protection
		2. Shoes and clothing
		3. Machine guards
S	U	Good Housekeeping
		1. Tool crib care
		2. Keeping equipment clean and oiled
		3. Keeping floors clean of dirt and oil
S	U	
		Reading Simple two (2) view drawings
S	U	Reading and using a scale (ruler) and microm
		1. Turning to fractional diameters
		2. Turning to decimal diameters
		3. Chasing a thread to fit a gauge
S	U	Setting up an engine lathe for...
		1. Turning (tool grinding)
		2. Threading
		3. Grooving
		4. Chamfering
S	U	Setting up a shaper
		1. Machining a work-piece square and to size
		2. Checking with a solid square
S	U	Using layout tools
		1. Combination square
		2. Protractor
		3. Scriber
S	U	Using hand tools
		1. Hammers
		2. Prick and centre punches
		3. Scribers
		4. Hack saws (also power)

MACHINE SHOP (continued)

S	U	Surface grinder
		1. Wheel dressing
		2. Flat grinding
S	U	
		Simple drill press operation
S	U	Do-all bandsaw
		1. Welding a bandsaw blade
		2. Some contour sawing

TEACHER COMMENTS

Teacher Signature

COMMUNICATIONS CLUSTER

1. SHOPS INVOLVED IN PROGRAM:

Hand Composition, room 526 - R. Krug (Chairman)
Letterpress, room 528 - J. Jones
Offset Press, room 528A - C. Nevison
Linotype, room 530 - R. Hahn
Offset Camera, room 518 - M. Bunder
Commercial Art, room 617 - S. Harman

2. GENERAL SCHEDULE FOR EACH STUDENT IN THE COMMUNICATIONS CLUSTER:

Each student will be in one of four (4) shops for each report period (10 weeks) in the tenth grade. They will be in the other two shops for one report each during the first half of the eleventh grade. Specialization in the shop of their choice will constitute the last segment of their cluster training.

3. SKILLS TO BE ACQUIRED IN EACH SHOP:

A. HAND COMPOSITION

1. Safety procedures
2. Work with others - take orders and carry them out
3. Follow written instructions
4. Set type by hand
5. Pull proofs on proof press
6. Proof-read using correct proof marks and act as copy-holder
7. Correct errors in type set by an other student
8. Operate machine - set Ludlow Type
9. Distribute hand-type
10. Operate Repro Press for reproduction proofs
11. Name and identify different families of type faces and know when they should be used
12. Operate saw for cutting spacing materials and make-up jobs

B. LETTERPRESS

1. Safety procedures
2. Work with others - take orders and carry them out
3. Follow written instructions
4. Lock-up type in Chase for printing
5. Operate and feed a Chandler & Price Job Press
6. Use wooden and metal furniture in locking form and proper use of quoins

7. Pack press for running different types of paper
8. Make ready for running half-tons
9. Maintenance of press (oiling, greasing, etc.)
10. Scoring stock for folding
11. Knowledge of type, paper and ink specifications

C. OFFSET PRESS

1. Safety procedures
2. Work with others - take orders and carry them out
3. Follow written instructions
4. Operation of Multilith Press 1250
5. Maintenance of same press
6. Knowledge of offset inks and papers
7. Operation of Davidson Offset Press and Maintenance
8. Inking and cleaning of offset press rollers and blankets
9. Paper cutter operations for paper and card stock
10. Care and use of printing plate before running on press

D. LINOTYPE

1. Safety procedures
2. Work with others - take orders and carry them out
3. Follow written instructions
4. Cleaning of a Linotype Machine (daily maintenance)
5. Preventative maintenance
6. Operation of Linotype Machine (keyboard)
7. Operation of Linotype Machine (machine operation and casting sequence)
8. Operation of Low Slugger
9. Knowledge of differences between Linotypes and Intertype Machines
10. Remelting of type metal
11. Care and maintenance of linotype matrices

E. OFFSET CAMERA

1. Safety procedures
2. Work with others - take orders and carry them out
3. Follow written instructions
4. Film developing process
5. Making of brown line proofs
6. Use of light table
7. Elements of plate-making
8. Preparation of chemical solutions for developing
9. Lining of forms for camera
10. Use of repro proofs
11. Use of paste-ups

F. COMMERCIAL ART

1. Safety procedures
2. Work with others - take orders and carry them out
3. Follow written instructions
4. Art background - emphasis on design and mechanical drawing
5. Use of art tools and media
6. Knowledge of all artist's equipment for various jobs
7. Draw and paint illustrations
8. Knowledge of reproduction equipment
9. Knowledge of relationship between artist and printer
10. Lettering - knowledge of different lettering designs

COMMUNICATIONS CLUSTER

STUDENT NAME: ______________________________ BOOK# ________

DATES FROM ________ TO ________

S	U	HAND COMPOSITION
		1. Safety procedures
		2. Work with others - take orders and carry them out
		3. Follow written instructions
		4. Set type by hand
		5. Pull proofs on proof press
		6. Proof-read using correct proof marks and act as copy-holder
		7. Correct errors in type set by an other student
		8. Operate machine - set Ludlow Type
		9. Distribute hand-type
		10. Operate Repro Press for reproduction proofs
		11. Name and identify different families of type faces and knew when they should be used
		12. Operate saw for cutting spacing materials and make-up jobs

TEACHER COMMENTS

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Teachers signature

COMMUNICATIONS CLUSTER

STUDENT NAME:______________________________ BOOK#________

DATES FROM__________ TO__________

S	U	LETTERPRESS
		1. Safety procedures
		2. Work with others - take orders and carry them out
		3. Follow written instructions
		4. Lock-up type in Chase for printing
		5. Operate and feed a Chandler & Price Job Press
		6. Use wooden and metal furniture in locking form and proper use of quoins
		7. Pack press for running different types of paper
		8. Make ready for funning half-tons
		9. Maintenance of press (oiling, greasing, etc.)
		10. Scoring stock for folding
		11. Knowledge of type, paper and ink specifications

TEACHER COMMENTS

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Teacher signature

COMMUNICATIONS CLUSTER

STUDENT NAME:________________________________ BOOK#__________

DATES FROM__________TO__________

S	U	OFFSET PRESS
		1. Safety procedures
		2. Work with others - take orders and carry them out
		3. Follow written instructions
		4. Operation of Multilith Press 1250
		5. Maintenance of same press
		6. Knowledge of offset inks and papers
		7. Operation of Davidson Offset Press and Maintenance
		8. Inking and cleaning of offset press rollers and blankets
		9. Paper cutter operations for paper and card stock
		10. Care and use of printing plate before running on press

TEACHER COMMENTS

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Teacher signature

COMMUNICATIONS CLUSTER

STUDENT NAME______________________________ BOOK#__________

DATES FROM__________TO__________

S	U	LINOTYPE
		1. Safety procedures
		2. Work with others - take orders and carry them out
		3. Follow written instructions
		4. Clearing of a Linotype Machine (daily maintenance)
		5. Preventative maintenance
		6. Operation of Linotype Maching
		7. Operation of Linotype Machine (machine operation and casting sequence)
		8. Operation of Low Slugger
		9. Knoweledge of differences between Linotypes and Intertype Machines
		10. Remelting of type metal
		11. Care and maintenance of linotype matrices

TEACHER COMMENTS

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Teacher signature

COMMUNICATIONS CLUSTER

STUDENT NAME ______________________________ BOOK# ______

DATES FROM __________ TO __________

S	U	COMMERICAL ART
		1. Safety procedures
		2. Work with others - take orders and carry them out
		3. Follow written instructions
		4. Art background - emphasis on design and mechanical drawing
		5. Use of art tools and media
		6. Knowledge of all artist's equipment for various jobs
		7. Draw and paint illustrations
		8. Knowledge of reproduction equipment
		9. Knowledge of relationship between artist and printer
		10. Lettering - knowledge of different lettering designs

TEACHER COMMENTS

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Teacher signature

OVERVIEW OF THE TWO-YEAR CLERICAL SKILLS LABORATORY PROGRAM

The Clerical Skills Laboratory (CSL) program is a two-year individualized instructional program in which students acquire skills with the aid of self-paced materials: instructional modules, correlated audio-visual programs, and a variety of equipment.

The course is offered for a two-period block of time on a daily basis. In this innovative format and with the use of self-paced modules, the students acquire skills similar to those offered in the traditional classes in Clerical Practice, Typewriting and Office Practice.

Currently, the CSL program is offered in the junior and senior years of high school. As part of this two-year sequence of learning, students in the senior year CSL are provided with a simulated office project as a culminating experience.

The physical layout of the lab is a model of a real business office. Each lab has individual work stations that accommodate 24 to 30 students. The teacher of the lab is considered a "manager" or "director" of instruction, rather than a transmitter of information as in a traditional classroom.

A. JUNIOR YEAR—During the Junior year, students work with self-paced, individualized materials. These packets of instruction are set up in small modules that teach specific tasks.

The student in the lab first takes a pretest in a specific area of instruction. This measures what the student already knows or his level of performance in that area. If the student meets the criterion-referenced standards (CRS) for these tasks, permission is given to bypass the module and proceed to another area. The student who does not meet the CRS on the pretest must learn the tasks he is being asked to do from the module. Upon completion of the module, the student takes a posttest to measure the amount of learning that has taken place.

For the student who has difficulty with the reading and/or the activities in the module or who cannot meet the CRS after taking the posttest, options are provided for alternative methods of learning. These methods of presenting material include filmstrips, movies, slides and cassettes correlated to the modules.

Topics covered in the modules and other media are in the areas of typewriting, clerical practice (stock clerk, payroll clerk, sales order clerk, office cashier, etc.) and office practice (adding machines and calculators, duplicating equipment and office procedures).

An important feature of the self-paced individualized modules is that the student who is absent can return to class and pick up his work at any time.

Emphasis is placed on the development of acceptable work habits and businesslike attitudes expected by prospective employers. Each student's work is based on his own career objective and standards of vocational competency.

The prerequisite for the Junior Clerical Skills Laboratory is the acquisition of basic skills on the typewriter.

B. SENIOR YEAR—The aim of the Senior CSL is for students to develop vocational competency and prepare for job placement through the use of modules, affective materials and the Simulated Office (SO) program. In the SO, senior students operate their own model business and do the paperwork that is actually done in an office. Realistic features include application for jobs in the simulated office based on students' interests and abilities; use of intercom telephones and a payroll time clock; payment for work by payroll check (simulated, of course); and students serving as managers, secretaries and clerks. A major goal of the Senior Clerical Skills Laboratory is the placement of graduating students in entry-level jobs related to their business career objectives.

Emphasis in the SO is placed on teamwork, sense of responsibility, attitude toward work and to others, and to other appropriate work habits. The flow of work helps each student recognize the importance of his job in the overall efficient functioning of the office.

The prerequisite for the Senior Clerical Skills Laboratory is the knowledge of typing, filing, clerical skills and the use of adding, calculating and other office machines. At the discretion of the teacher, those skills which have not been previously mastered in the Junior Clerical Skills Laboratory may be acquired by permitting students to complete specific individualized modules in the Senior CSL.

COMPREHENSIVE CAREER EDUCATION MODEL K-14

CLERICAL SKILLS LABORATORY

GENERAL

The Clerical Skills Laboratory is an individualized approach to teaching communicative and computational skills to high school students. The two-year sequence of learning is culminated by the office simulation project in the senior year.

JUNIOR CLERICAL SKILLS LABORATORY

Topics covered in this course:

1. Development of social patterns, work habits, attitudes and other values considered necessary for successful functioning in the business environment
2. Communication skills (oral, written)
3. Typewriting skills
4. Preparation for clerical areas such as payroll, filing, and stock control through the use of programmed materials (packets or modules)
5. Use of the adding machine and calculator
6. Use of the spirit duplicator, machine, and photo copier
7. Skills necessary to obtain an entry level clerical job

PERFORMANCE OBJECTIVES

Specific performance objectives are spelled out in each of the individualized instructional modules.

Following are some examples of these performance objectives.

Clerical Skills Laboratory

The student will be able to:

1. Demonstrate the ability to type a minimum of 25 nwpm
2. Identify the parts of the typewriter
3. Demonstrate the ability to proofread, erase, and make any corrections to achieve perfect copy
4. Demonstrate the ability to type many types of business forms
5. Show proficiency in typing letters and envelopes

SENIOR CLERICAL SKILLS LABORATORY

Topics covered in this course:

1. Remedial work on basic skills (via Junior CSL packets)
    a. Basic Skills:
        1. Filing
        2. Typing letters and forms
        3. Computing
        4. Machine operations
        5. English usage
    b. Clerical Skills
2. Job orientation
3. Preparation for Civil Service Tests and other employment tests and interviews
4. Outside job placement--after school, on school/work program, and upon graduation
5. Typing and/or machines project for individual work at any time during the term (such as Hamilton Practice Set, etc.)
6. Tapes, transcription practice, and composing letters to work on communications skills
7. Telephone training (switchboard and/or intercom)
8. Affective development via visits to industry, guest speakers, or "adoption" of individual Clerical Skills Lab students by business people for the students' social and career development during the year.

PERFORMANCE OBJECTIVES

This is the specific level of performance the student must do to succeed (or pass) in this class:

A. Continue with objectives of the Junior CSL

B. Objectives of Office Simulation

1. Terminal Performance Objective: To enable the student to participate in office procedure, routines, and work flow which occur in the business office.

2. Course Objectives: The student should be able to perform the following:

   a. To integrate skills learned in previous business education courses and to move from individualized learning to the "teamwork" concept.

   b. To define the functioning of the following areas:
      (1) Executive Area
      (2) Sales Department
      (3) Purchasing Department
      (4) Bookkeeping Department
      (5) Outside World

   c. To define the various duties of clerk, secretary, and manager.

   d. To be able to calculate and type information on various business forms which are used in each area.

   e. To be able to communicate words and ideas to fellow workers and to people who represent the outside world.

   f. To be able to work together--that is, to be able to take criticism given constructively; to be able to follow directions given by other students; and to work cooperatively with other students.

   g. To develop proper work habits and positive attitudes toward work.

COMPUTER BASED
CAREER INFORMATION PROGRAM

What is Project VICS?

VICS (Vocational Information through Computer Systems) is an on-line, student operated, guidance information retrieval system. VICS is a computer-assisted program where students access information through remote teletypewriters located in their counselors' offices. The teletypes are connected by telephone lines to a central computer located at the School District of Philadelphia's Instructional Computer Center.

Funded by the Vocational Education Act of 1968 and through the Department of Education of the Commonwealth of Pennsylvania, VICS is a cooperative project of the Division of Instructional Systems, the Division of Pupil Personnel and Counseling, and the Division of Career Education of the School District of Philadelphia.

VICS has the following objectives:

1. To offer current, accurate, and local career and occupational information to all Philadelphia high school students with emphasis given to the disadvantaged student.
2. To provide school counselors and teachers with current occupational information with which to work.
3. To assist students in evaluating occupational opportunities in terms of their own interests and abilities.
4. To present the concepts of job family, career clusters, and career ladders and their significance in occupational planning.
5. To direct students to local sources of post-high school training and sources of financial aid.
6. To keep the occupational information up to date and reflective of the needs of the Philadelphia labor market.
7. To make the retrieval of information automatic, and basically student operated.
8. To keep statistics for each school that reflect the occupational interest patterns of its students.
9. To provide teachers with sources of information that will assist them in relating school subjects and programs to the world of work.
10. To relieve couselors and teachers of the tedious and time consuming tasks of collecting, analyzing, classifying and updating the many sources of occupational and educational information.
11. To offer job-bound and drop-out students information on local employers for certain occupations in the VICS data bank.
12. To offer counselors, teachers and other school personnel a computerized data bank of local health, welfare and social agencies.

All of the information in the VICS occupational briefs was written by Philadelphia high school counselors. As the program is geared specifically to the Philadelphia labor market, much of the information was obtained through mail-outs, phone calls, and personal visits to local labor unions, business, and industry.

Information on each occupation is broken down as follows:

A. Definition of the job along with its D.O.T. number
B. General Duties
C. Related Jobs
D. Questions students may ask directly pertaining to the occupation:

1. Educational requirements
2. Recommended high school courses
3. Interest factors
4. Personality factors
5. Physical factors
6. Where the job is done
7. Where in Philadelphia the job is done
8. Current pay for the occupation in the Philadelphia area
9. Benefits, working conditions, advantages and disadvantages
10. Chances for advancement
11. Future outlook locally and nationally
12. Local training facilities and tuition fee, if any. (Includes university, college, community college, junior college, apprenticeship, on-the-job, MDTA trade-technical, and private business school training.)
13. Scholarship and financial aid information
14. Schools outside of the Philadelphia area and whom to see, write, or call for more information.

Each student has up to forty minutes of terminal time per appointment. The student receives a hard-copy print-out of the information he requests. Information can be accessed through several methods:

A. Direct Access, ("A" Track) - Students who know what occupation they wish to explore are referred to an off-line "Alphabetical List of Occupations." The student finds the job and its identifying number, types the number into the computer, and receives parts A,B, and C mentioned above. The computer then asks if the student would like to ask any questions. If the reply is "NO" he is directed to other occupations. If "YES", he is directed to the fourteen questions listed under part D above. ("Yellow List" See Appendix C). He may ask any or all of them.

B. Indirect Access ("B" Track) - This approach is for students who are not sure what occupation they wish to investigate. The computer first explains to the student how occupations can be classified into areas of interest and educational requirements necessary for entry. (VICS) uses an adaptation of Anne Roe's classification system).

The interest areas are:

1. Service
2. Business - selling
3. White collar work
4. Engineering, trade, technical and mechanical work
5. Outdoor
6. Science
7. Cultural
8. Arts and Entertainment

The educational levels are:

1. College training beyond the Bachelor's level
2. Four years of college - Bachelor's degree
3. Associate degree or two year trade/technical programs
4. Apprenticeships, trade/technical programs, and business school programs less than 2 years in length
5. On-the-job training

6. No special training

After receiving a description of each interest area and educational level the student chooses one from each category and inputs his choices. The computer then prints out a list of occupations from its memory that matches the two requirements.

C. Information on post-high school training, scholarship, and financial aid ("C" Track) - This track gives only information about post-high school training, financial aid, and where to get more information for a particular occupation.

D. "Job Search" ("D" Track) - Job-bound and drop-out students can receive an extensive list of local employers for designated occupations. The list includes the employer's name, address, telephone number and a list of employment skills and educational requirements necessary for entry level positions. Armed with this list, the student has a head start on finding employment in his desired occupational field. The computer memory can supply lists for the entire city or for the student's own neighborhood. Over 4,000 employers are on file with more to be added.

Any information system must be reliable, accurate, and up-to-date. The updating capability of VICS is one of its strongest features. Updating is accomplished in a matter of seconds once the new information is verified. There is no time gap between receipt of new information and its availability to student users. All of the information in the data banks is updated at least once a year, and in many cases more often than that. Important changes are made immediately.

Statistics pertaining to student usage, occupational interests, educational aspirations and other factors are generated bi-weekly in the Computer Center. All counselors receive individual summaries of the investigations of all their students.

All students are asked to take a short questionnaire administered on-line after they finish their first VICS interaction. This aids in refining and assessing the program and offers suggestions for new occupations to be added to the data base.

SLIDE TAPE PROGRAM

SLIDE TAPE PROGRAMS

The slide tape programs are synchronized audio/visual programs which cover many occupations within sixteen (16) specific clusters. These can be obtained for use within the School District of Philadelphia, through the Audio/Visual Media Center, J. F. Kennedy Center for Vocational Education.

The following is a description of how they were used by Sister Maureen Walsh at the Most Precious Blood Elementary School in conjunction with her reading program. Also enclosed is a copy of the slide/tape request form, which details the scope of the programs available.

OBJECTIVE: To integrate career awareness into an academic schedule.

PROCEEDURE: Within the academic schedule, one hour of reading is planned for each junior high class every day. For an hour of reading, the individual class is divided into three groups, all working at their own pace. One of these groups, *A*, has scheduled private lessons throughout the day with another reading teacher on an individual basis, but most are present for reading activities and are responsible for completed assignments. Group *A*, then does not have a special time within the hour for group reading instruction. That leaves two groups, *B* and *C*, a half hour each for reading instruction. While instructing *B*, groups *A* and *C* have the opportunity to complete necessary assignments and to choose to observe the slide-tape program and listen without assignment strings attached. While instructing *C*, group *B*, has the same privilege to become aware of career choices. Due to difficulty in scholastic skills, Group *A* seems to make the choice more frequently to learn from the slide-tape program.

Sample scheduling within the hour

READING INSTRUCTION	AVAILABLE FOR: Language Arts skill Research work Art projects SRA reading skills CCE Slide-Tape program
Group B	Groups A and C
Group C	Groups A and B

Within the classroom set-up there is a movable screen with side panels to block the light. Headphones are plugged into the recorder. About six pupils can sit comfortably around the screen to observe career information. In one day, a percentage of children within the class become aware of fields open to them. It is considered an advantage because it is an activity to be chosen, plus the production is consistently available thanks to the Career Development coordinator.

Sets of slide-tape programs were used from the following sixteen clusters.

1. Power Mechanics Cluster
2. Building Construction and Maintenance
3. Communication Cluster
4. Personal Services Cluster
5. Metal Processing Cluster
6. Business Data Processing
7. Secretarial Cluster
8. Clerical Cluster
9. Health Services Cluster
10. Professional Occupations
11. Apparel Trades Cluster
12. Industrial Occupations Cluster
13. Electro-Mechanical Cluster
14. Distribution Cluster
15. Drafting Cluster
16. Public Service

SLIDE - TAPE PROGRAM REQUEST FORM

REQUESTING SCHOOL______________________________DATE__________

PROGRAMS REQUESTED FROM____________________TO____________________

SCHOOL HAS:SLIDE PROJECTOR_____CASSETTE RECORDER________NEITHER_____

Please check the programs your school would like. A separate form must be submitted for each delivery date.

1. POWER MECHANICS CLUSTER

___Auto Overview
___Service Station Attendant
___Service Station Dealers
___Airplane Mechanic
___Diesel Mechanic
___Mechanic, General
___Small Engine Mechanic

2. BUILD. CONST. & MAIN.

___Carpenter
___Rodman
___Plumber, Pipefitter
___Bricklayer
___Cement Finisher
___Painter, Paperhanger
___Operating Engineer
___Construction Overview
___Blacksmith
___Building Maintenance
___Building Superintendent
___Construction Electrician
___Electrician
___Ironworkers
___Maintenance Electrician
___Welder

3. COMMUNICATION CLUSTER

___Linotype Operator
___Cold Composition
___Cameraman
___Hand Composition
___Silk Screen
___Graphics Comm.Overview
___Printing Pressman
___Stripper Platemaker
___Lithographer
___Bindery
___Photographer
___Photo Technician
___Commercial Artist
___Composing Room Workers
___Lithography Workers
___Newspaper printing

3. COMMUNICATION CLUSTER(CONT'D)

____Printing Overview
____Radio and Television
____Radio Operator & Teletypist

4. PERSONAL SERVICES CLUSTER

____Cook & Chef
____Waiter, Waitress
____Kitchen Help
____Food Service Overview
____Janitor
____Hairdresser
____Auto Salesman
____Bakers
____Bus & Taxi Drivers
____Dry Cleaning
____Furniture Upholsteres
____Hotel, Motel
____Mail Clerk
____Meat Cutters
____Stationary Fireman
____Turf-Grass Technician

5. METAL PROCESSING CLUSTER

____Auto Body & Fender
____Auto Painter
____Sheet Metal Worker
____All Around Machinist
____Machine Operator
____Tool & Die Maker

6. BUSINESS DATA PROCESSING

____Bookkeeping or Bookkeeping Clerk
____Accounting Clerk
____Computer Operator
____Keypunch Operator
____Business Machine Operator
____Systems Analyst

SLIDE - TAPE PROGRAM REQUEST FORM (CONT'D)

7. SECRETARIAL CLUSTER

______Banking Overview
______Stenographer
______Secretarial Overview

8. CLERICAL CLUSTER

______Typist
______File Clerk
______Office Machine Operator
______Receptionist
______Telephone Operator
______Cashier
______Salesclerk

9. HEALTH SERVICE CLUSTER

______Licensed Practical Nurse
______X-Ray Technician
______Medical Lab. Technician
______Dental Assistants
______Medical Secretary
______Registered Nurse
______Chemical Lab. Technician
______Dental Lab. Technician
______Health Services Overview
______Hospital Attendant
______Inhalation Therapist

10. PROFESSIONAL OCCUPATIONS

______Certified Public Accountant
______Attorney
______Architects
______Dentists
______Doctors
______Floriculture
______Opticians
______Pharmacists

11. APPAREL TRADES CLUSTER

______Power Sewers
______Garment Factory
______Knitters
______Cutters & Spreaders

12. INDUSTRIAL OCCUPATIONS CLUSTER

______Foundry Workers
______Truck Drivers
______Assemblers
______Heating & Air Conditioning
______Telephone Lineman

13. ELECTRO-MECHANICAL CLUSTER

____Appliance Repair
____Bowling Pin Machine Mechani
____Electric Sign Serviceman
____Elevator Mechanic
____Optical Mechanic
____Television Repairman
____Vending Machine Mechanic

14. DISTRIBUTION CLUSTER

____Stock Clerk

15. DRAFTING CLUSTER

____Drafting

16. PUBLIC SERVICE

____Policeman
____Ramp Serviceman
____Postal Employees

____
Signature & Position

____
Date

MICROFILM
CAREER INFORMATION PROGRAM

PHILASCRIPT

Philascript in its general format is an adaptation of the VIEW (Vital Information for Education and Work) project which was developed in San Diego, California in 1964. VIEW, for the first time, utilized microfilm aperture card technology for disseminating occupational information in a school setting.

Like the VIEW system, Philascript is designed to: (1) collect, organize and synthesize Career Information; and (2) to package this data in a modern, microfilmed format suitable for student use through the aid of a reader-printer device.

Philascript assists the counselor to:

1. be current with changing information about jobs, job markets, pay scales;
2. have at his or her fingertips information about a wide variety of jobs that young people find attractive;
3. motivate young people to inquire for themselves about career and educational opportunities.
4. find facts about the educational requirements for jobs as he or she helps young people achieve their goals; and
5. obtain in short order an encyclopedic knowledge that otherwise would require extensive searching.

Philascript assists the student to:

1. have up-to-date exploratory or relevant information concerning the kinds of jobs commonly found in his community;
2. acquire an understanding of the basic requirements with regard to these jobs;
3. have facts about local opportunities in these jobs;
4. have facts about educational and training opportunities in his community; and
5. be able to take home copies of his information for discussion with his parents, or for future references.

JOB PLACEMENT

Approximately 40,000 disadvantaged students attend the inner-city senior high schools of Philadelphia. These students are both economically and/or educationally disadvantaged as defined by the Guidelines for Vocational Education Programs Fiscal Year 1972-73 and Fiscal Year 1973-74.

Statistics compiled by the School-Work Department of the Division of Vocational Education report that 3,500 disadvantaged students are employed during the school year in supervised school-work programs and 1,200 disadvantaged students are employed in the Neighborhood Youth Corps. Most of the other disadvantaged students could benefit economically and educationally if they were able to obtain jobs, either part-time during the school year or full-time during the summer holidays. However, many of these young people, while in school and even after graduation, have difficulty in locating jobs on their own. It is the purpose of this proposal to establish Job Placement Centers staffed by persons specifically assigned to develop work opportunities for students, dropouts, and graduates.

It is anticipated that the jobs developed by the Job Placement Specialists will help to overcome the economic and educational disadvantages of the students in two ways.

First the earnings from a job will add to the family income and help alleviate the effects of the economic disadvantage of the student. This financial aid will contribute to relieving the economic pressure which often limits academic achievement and sometimes causes a student to drop out of school.

Secondly, it is anticipated that a work experience will directly help improve the educational performance of a student. It is expected that the students' involvement in a work experience will provide a perspective by which the importance of the mastery of basic skills is seen as more relevant; it is anticipated that the attendance, punctuality and attitude standards required by the employer will impress on the students the importance of these corresponding standards required in the school and motivate them to maintain or improve attendance, punctuality and behavior patterns. Also, for many students a job will provide a vocational experience which will complement their educational program. Skills learned in school will be strengthened and related skills will be introduced and learned.

A concomitant educational benefit of a work experience is the career guidance it will provide for the student.

It is proposed to expand the existing Job Placement Program to include ten additional senior high schools. Selection of the schools awaits approval of the principals of the schools under consideration.

The function of the Job Placement Centers will continue to be to develop, process and fill (1) jobs for disadvantaged students--jobs after school, evenings, weekends, holidays, and summer, (2) jobs of a temporary or occasional nature, (3) jobs for current dropouts and current graduates in consonance with the efforts of the Bureau of Employment Security.

Who: This program will help to provide a work experience for additional disadvantaged students in the high schools. Major emphasis in placement will be for those students who are pursuing a vocational curriculum. Additional efforts in serving students will provide a first vocational experience for many youth, hopefully stimulating interest for their taking related occupational training in the schools. Career development is enhanced through these employment opportunities.

When: The staff of the program will be employed on a twelve-month basis and will have a 6-3/4 hour work day.

How: The Job Placement Center will become the center of employment activity in each school. It will be operated by a Job Placement Specialist. All calls from employers involving a job opportunity will be referred to this office. All job opportunities will be processed by the Job Placement Specialist from a card list of applicants which he will develop and accumulate. The Job Placement Specialist will promote and generate jobs in the general vicinity of the school. The activities of the Job Placement Specialist will be under the direct supervision of a Job Placement Coordinator.

ACTIVITIES

YEAR I 1973/74

YEAR II 1974/75

YEAR III 1975/76

ACTIVITIES YEAR I
1973-1974

GENERAL:

1. Meetings were held with the principals of the participating schools to select the grade levels and students for the first year of program. Transportation was arranged with the Philadelphia Board of Education and the Southeastern Pennsylvania Transportation Authority for the movement of students between the three schools.

2. An abstract was prepared and submitted to the Office of Education, it was also necessary to submit a budget revision during this period.

3. The Youth Development Center, 151 W. Luzerne Street, Philadelphia, Pennsylvania was visited to observe the Singer-Graflex Vocational Evaluation System being used by the students.

4. Meetings were held with numerous individuals to assist in planning lessions that would integrate the career education concept.

5. A summer orientation session was held on August 12, 1973 to give the principals and those teachers able to attend a chance to discuss the proposed objectives and ways in which these would be met. During this session curriculum materials were reviewed for possible use in staff development.

Audio-visual materials developed by the Career Education Media Center, School District of Philadelphia, was reviewed for use in the classroom at the elementary and secondary level. A procedure for effective use of this was developed by Sister Maureen Walsh and can be found in the appendix.

6. A meeting was held between the Comprehensive Career Education Model staff, the Philadelphia Home and School Council, the Advisory Committee on Vocational Education, and the Philadelphia Federation of Teachers to start planning for an informational program this coming spring, 1974.

7. A presentation of the Comprehensive Career Education Model k-14 program was made at the cabinet meeting of the Division of Career Education, School District of Philadelphia.

8. Inter/intra school staff development sessions were held monthly with the Comprehensive Career Education Model K-14 participants on a regular basis.

The core staff and teachers reviewed both instructional and evaluation material for use in classroom activities and the evaluation of the program.

Through the efforts of the Director, teachers in the participating schools (not already participating in Career Education Staff Development sessions), have become involved in Saturday sessions offered by the division through an agreement between the Center for Vocational Technical Education at Ohio State University and the School District of Philadelphia.

9. A complete overview of the Comprehensive Career Education Model K-14 program was prepared and reproduced for the visit by the Federal Evaluation Team in January 1974.

10. A contact was made to Mr. Anthony C. Brock, Exploring Director, Exploring Division of the Boy Scouts of America, and groundwork was laid to involve the Dobbins Cluster students in a Career Exploring Program sponsored by his division. From these discussions an Explorer Post of the Boy Scouts of America was formed (on a limited basis) consisting of students involved in our cluster program. Unfortunately due to a lack of student interest this program was discontinued as of February 1974.

11. Due to notification from the U.S. Office of Education that the second year budget allocation would be $83,006, instead of $148,000, spending procedures were reviewed and restated in order that a significant surplus from the first year allocation could be seen. Immediate steps were taken to obtain additional monies from state and local sources. A proposal was prepared and submitted for Part D Funds from the Vocational Education Act of 1968, from the state. Additional monies were obtained from the School District of Philadelphia, which are reflected in staff salaries, instructional material and services.

A new budget, for 1974-75 school year was prepared and submitted to the Office of Health, Education and Welfare. This budget reflected substanial increases in state and local efforts.

12. Preliminary plans have been made with the principals of the participating schools for the operation of the program during the 1974-75 school year. A meeting was held with all participants in the program and a time schedule agreed upon for an intensive staff development sessions to be held during the summer of 1974.

13. The Comprehensive Career Education Model K-14 has been visited by teachers and administrators from other schools and divisions within and outside, the boundaries of the School District of Philadelphia. The purpose of these visits was to seek components of the program that could be used in other locations.

14. Reactions to information disseminated throughout the School District of Philadelphia about the program, from top administration was received and proved to be very favorable. Sample exhibits of this reaction can be found at the end of this report.

OTHER RELATED ACTIVITIES:

1. Final arrangements (proof reading, etc) were made for the publishing of "Time to Explore - Ideas and Suggestions: A Teacher's Manual for Career Education and Guidance." This manual will be used extensively for the integration of Career Education concepts and subject curriculum.

2. The Comprehensive Career Education Model K-14 office, has been given the task of the initial assignment of counseling for tenth grade course of study, to be chosen by the students in the ninth grade trade exploratory program.

3. The coordinator of the Comprehensive Career Education Model K-14 participated in the evaluation of the project existing in Glen Bernie, Maryland, as a member of an evaluation team initated by the U. S. Office of HEW.

4. A meeting was held at Temple University with the Project Director, and the Project Coordinator, for the purpose of implementing new courses of instruction for Temple's Teacher Training Program.

5. The project manager entered into a contract with Ohio State, Alliance for Career Education Consortium and fifteen other school districts.

6. The Coordinator of the Comprehensive Career Education Model K-14 Program has also assumed the responsibility for the management of the program outlined by the Career Education Consortium from Ohio State University.

7. The Project Coordinator and the Career Specialist visited the State Department of Education Research Coordinating Unit to discuss plans for evaluation and future proposals.

A. Elementary Level K-8

1. Intra-school meetings for the staff and principals have been held with the CCEM administrators on a regular basis. These meetings are used for problem solving, sharing of information, and planning of activities to take place in the future.

2. Instructional and curriculum materials collected by the CCEM K-14 office have been placed into the classrooms. Feedback as to their effectiveness was gathered.

3. The Guidance Specialist met with the students from the Lowell Elementary School, 5th & Nedro Avenue, who will be going to Dobbins AVT School, 22nd & Lehigh Avenue. The program consisted of an introduction to the project, Career Education, slides and a presentation about Dobbins AVT and activities from "Time to Explore".

4. A meeting between the Project Coordinator and the parents of the students at the Most Precious Blood Elementary School, 28th & Diamond Streets, brought overwhelming enthusiasm and support for the program.

5. An open invitation from the Dobbins AVT School was made to all parents of the students within the program.

6. A Career Education Learning Center, using slide/tape materials developed by the Career Education Media Center, was set up at the Most Precious Blood Elementary School.

7. The weekly visits to the Dobbins AVT School shops by the elementary students begun in September 1973. Twenty-two shops are being used and hands-on activities for the elementary students was planned. A follow up form is used at the end of each visit to determine if the students have attained the objectives for the visit. The students involved in this segment of the project were the seventh grade classes from Lowell Elementary, and the eighth grade class from Most Precious Blood School.

A new group of seventh grade students was assigned for shop visitation component of CCEM K-14 from the Lowell Elementary School for the second half of the year. This is in contrast to the continuance of the same class of students from Most Precious Blood Elementary School, who spent the whole year at the Dobbins AVT School.

The individualized "sound on slide" instructional material currently being used with the cluster students, at the high school level, was used on an exploratory basis with the visiting elementary students at the Dobbins AVTS. This proved to be very successful for all concerned.

8. Teachers from the Lowell and Most Precious Blood Elementary School have been visiting Dobbins AVT School on a rotating basis.

9. Trips into the World of Work had been scheduled, and had taken place for specific classes within our two elementary schools. A Comprehensive Career Education Model K-14 form has been designed and implemented to facilitate the arranging of trips by our office.

10. There has been a great amount of community participation at the Lowell Elementary School. Parents and community members have served as speakers, assisted in classroom activites, and opened their places of business to the students. At Most Precious Blood Elementary School a federally funded Community Consultant is working on parent participation.

11. Weekly visits to the Career Education Labs at the Lowell Elementary School, by the Most Precious Blood students was organized and implemented by October 1973.

12. Arrangements were made and completed for the involvement of grades one and three at Most Precious Blood Parochial School to participate in a day of career activities at the Lowell School.

13. Due to a cooperative effort between the third grade teacher at Most Precious Blood School, several shop teachers at Dobbins AVTS and core staff, the entire third grade was able to become involved in activities of varing degree at Dobbins.

14. The class at Most Precious Blood Parochial School which will be coming to Dobbins AVTS for exploratory activities in September 1974 participated in an orientation session held at the high school.

15. The assignment of student teachers to the Career Education Labs at the Lowell Elementary School from the School of Education at Temple University began in February 1974.

16. Several meetings were held between the staff members at the elementary schools. A form was developed for the formal writing of the lessons used during the year. It is anticipated that these will be reproduced during the month of July in time for the summer staff meetings.

B. Secondary Level 9-12

CLUSTER CONCEPT

1. Meetings held with the teachers in charge of the clusters at Dobbins AVT School in order that this program could be implemented as of September 10, 1973.

2. All the students, with parental consent, who will be involved in the cluster approach have been selected from the tenth grade class.

3. The management time structure for the cluster program was developed and implemented. The students, as of this reporting, are in their second shop within each cluster. Assistance was given to those instructors requiring additional information.

4. Individualized materials (Sound on Slide) and equipment was obtained and disseminated to the coordinators and teachers involved in the Metals Cluster Program.

5. A staff development session was held for all the teachers who are involved in the Metals Cluster. The theme of the session was "Individualized Instruction in a Vocational Shop," and was conducted by the Comprehensive Career Education Model K-14 office and the Division of Vocational Education.

6. Weekly staff development sessions with all the teachers participating in the cluster program at the Dobbins AVTS were held.

7. Meetings with the students involved in the cluster program were held on a tri-weekly basis. These meetings were informal in nature, and discussions revolved about the problems that the students have.

8. The individualized "Sound on Slide" material was used with cluster students, regular shop students, and the elementary students who visited Dobbins for exploration. An evaluation report was prepared by the cluster chairman and submitted to the Division of Vocational Research.

EXPLORATORY COMPONENT

1. The rostering of five (5) week segments of 320, ninth grade students into our Career Education Program was completed.

2. An over-all philosophy was written and disseminated to the shop teachers involved. The shop instructors developed behavioral objectives and activities for the students in this program.

3. The trade exploratory class (ninth grade) was assigned a full time counselor from the counselling staff of the Dobbins AVT School. This person, along with the core staff of the CCEM office, have been in contact with many ninth grade students who needed assistance.

4. A meeting was held with the students in the present trade exploratory class, and each student was asked to make a tentative shop choice for the tenth grade. Acceptance or rejection into that shop was made by the school coordin- of the respective shops. Extensive counseling was done with the sudents who were rejected form their first choice. Although the students have made choices for training, we still will be able to made changes based upon future trade exploratory experiences.

CLERICAL SKILLS LABORATORY

1. The Clerical Skills Laboratory was equipped and is fully

operational with a class of specially chosen students in the eleventh (11th) grade. Individualized modules of study developed during 1973, were obtained for immediate implementation.

VOCATIONAL EVALUATION CENTER

1. The Singer-Graflex Vocational Evaluation System was delivered, made operational, and is now being used with the ninth grade class at Dobbins AVT School.

2. An analysis for the operating cost of the Singer-Graflex Vocational Evaluation System was done by this office. This analysis was in response to what seemed to be inordinately high costs in the purchasing of expendible materials from the Singer Company.

3. A computer terminal was installed in the Vocational Evaluation Center affording the Dobbins students an on going availability to the project "VIC'S," another federally funded project.

JOB PLACEMENT

1. The appointment of the Job Placement Officer to the Comprhensive Career Education Model K-14 program has been completed. This person has made numerous business contacts and placed a number of Dobbins students in full or part-time jobs.

2. A proposal was prepared and submitted to the State Department of Education for additional monies, under Part D Funds of the Vocational Education Act of 1968. These funds will be used for the continuation of the cluster program at the Dobbins AVTS.

SIGNIFICANT FINDINGS:

1. The response of all persons contacted,Counseling Staff, Teachers, Administrators, and Parents has been very enthusiastically received. They see a necessity for this type of program and convey to us a willingness to mutually work towards a successful year.

2. The program as planned for the first year was to have involved grades seven and eight in the parochial school. Presently, grades one, three, seven and eight are involved.

3. Originally, there was concern regarding the seventh graders from a predominantly white elementary school visiting a predominantly black high school. Through discussion and interaction with the elementary students, we discovered an underlying fear of the high school, but with the start of the program this fear disappeared and a real sense of belonging and companionship was developed among the white elementary students and the black high school students. There was some fear expressed for the black elementary students from the Most Precious Blood School going to the predominantly white Lowell Elementary School. As it was discovered, this proved not tobe a problem, due to the work of the staff at these schools.

4. The on-site visitation by an evaluation team representing the U. S. Office of HEW reported favorably on our program and recommended second year funding.

5. It has been determined by the administration of the program that the optimun time for the paired visitation of a vocational school by elementary students is approximately twenty weeks. This period of time give the students sufficient time to experience the vocational program, in order to facilitate his high school choice.

6. Interest and enthusiasm at the Most Precious Blood School has increased substantially with the grade levels that are participating in the first year of the Comprehensive Career Education Model K-14 Program.

7. The use of the Cluster approach in the graphics-communications area has been successful, and Dobbins is adopting this concept as their standard procedure for the upcoming year.

8. It was found that the orientation of staff and students to use the Singer Vocational Evaluation Center was accomplished without difficulty.

9. A great many girls from the elementary schools have taken an interest in shops that traditionaly have been populated by male students. The CCEM office had many request from girls to attend the foundry and sheet metal shops in particular.

10. The resistance to the inclusion of elementary students into several shop areas by the shop instructors has been completely dissipated. There is now a greater amount of interaction between the shop teachers and these students, on a one to one basis. The shop teachers at the Dobbins AVTS have commented on many occasions that they are amazed at what these younger students can do.

11. As information about the program and the Dobbins AVTS is transmitted to people outside of the vocational-technical relm of influence, their reactions are very favorable.

PBOBLEMS:

1. The following problems incurred during the first reporting period are:

   1) Selection of schools in the program. The original proposal included the St. Columba's Parochial Elementary School. The principal and pastor declined to participate due to the bussing of the students out of their immediate district. This required the Program Director to ask the help of the Philadelphia Archdiocese in the selection of another parochial elementary school. The Most Precious Blood Elementary School, 28th & Diamond Streets, meet the criteria as set forth in the original proposal.

   2) All facets of the project were to start during the first week of September. Due to the selection of personnel, arrangement of bus service, and selection of schools, this was delayed until the first week in October.

   3) Orders have been submitted to the Purchasing Department of the Philadelphia Board of Education, and as of this writing have not been received. This is being followed-up by the Project Director.

2. The following problems incurred during the second period are:

   1) We have had difficulty with the reliability of the bus service provided by the School District of Philadelphia. A conference with the supervisor to the Department of Transportation was held to resolve this difficulty.

   2) The teachers at the elementary level have not been able to participate in the weekly tour of the Dobbins AVT School, due to their heavy class schedule and home school responsibilities.

   3) The Audio-visual material (sound-on-slide) developed for the cluster approach, by the Division of Vocational Education, is unavailable at this time, due to difficulty incurred by that division in the duplication of materials for this program.

   4) Classroom electrical modification for the Clerical Skills Lab, and the Singer-Graflex Evaluation Center, have not been completed at this date.

3. The following problems incurred during the third reporting period are:

   1) We are still experiencing some difficulty with the reliability of the bus service provided by the School District of Philadelphia.

   2) Although we have obtained the majority of individualized material from the Division of Vocational Education, we are still missing units necessary for the Machine Shop and Foundry Components of the Cluster Program.

4. The following problems incurred during the fourth reporting period are:

   1) The most crucial problem confronting us during this quarter was official notification that the second year budget would be significently less then originally expected.

   2) The Comprehensive Career Education Model K-14 office received notification that due to a reductions in federal funding, the position of Job Placement Officer appointed to the Dobbins AVTS would be discontinued for next year.

ACTIVITIES YEAR II
1974-1975

ACCOMPLISHMENTS

The major activities and accomplishments during this past year centered around the organization and refinement of concepts developed in the first year, and these were presented by the teachers for implementation into the classroom starting in September, 1974.

1. Extensive planning and preparation was done by the project administrators for the staff meetings held during the last week in August, 1974.

2. The summer staff development sessions were held to give the participating principals and teachers an opportunity to share common concerns, discuss new information assembled by the project administrators; and to plan the second year of operation of CCEM.

3. Curriculum materials reviewed by the project administrators and staff were used in the classroom.

4. A "Career Education and Occupational Information Material Listing" compiled by the project, was shared with the principals and teachers of the participating schools. This combination of available information proved useful in making the participates aware of materials available.

5. The process for the ordering of materials by the schools was redesigned and explained to the principals and staff of the participating schools.

6. A meeting had been held with the liaison person from the Vocational Advisory Council of Philadelphia and the Project Administrators for the purpose of generating a greater variety of sites for student field trips.

7. Contact had been made with the University of Pennsylvania (Office of External Affairs) and Temple University, School of Pharmacy for the purpose of taking elementary students on career related trips.

8. A meeting held with the community service coordinators at the Most Precious Blood School Developed a plan for greater community involvement during the year.

9. An inter-school busing schedule had been developed for the 1974-75 school year. The Philadelphia School District Bus Service was able to provide service for all the dates and times requested.

10. The first inter-school staff development session for the year had been held at the J. F. Kennedy Center for Vocational Education on November 23, 1974. The topics covered were:
    (1) A description of other programs and meetings attended by the project administration.
    (2) A review of curriculum materials received from commercial and other project sources.
    (3) A review of the USOE guidelines for project evaluation involving the school personnel in the choosing of outcome areas for evaluation.

11. Using the "Career Education and Occupational Information Material Listing" and other instructional material received the principals and staff for the project schools ordered materials for classroom use.

12. Mr. Ralph Pandolfi, a career education team member at the Lowell Elementary School, made a 16mm movie on the CCEM K-14 project in conjunction with his work at Temple University.

13. A microfiche Reader placed in the CCEM office at the Dobbins AVT School allowed the project administrators extensive use of materials obtained from ERIC, VEIN, and Philascript and Pennscript for student use.

14. Dr. Matthew Costanzo, Superintendent of the Philadelphia School System, and Dr. Ezra Staples, Associate Superintendent for Curriculum & Instruction had visited the Lowell Elementary School to observe one component of the CCEM K-14 program. Two specific points of interest were the Experience Room, designed and conducted by Mr. Pandolfi, and the inter-school mixing of parochial and public school children in the Technoloby Labs. After a full day of observation of career education activities in the classrooms and technology labs, an enthusiastic approval of the program was given the Principal and Project Director.

15. A presentation had been made by the Project Administrators to the teachers and children in the eighth grade, at Saint Elizabeths Elementary School, about the CCEM Program and the Dobbins AVT School. This resulted from a request, that had been made, by the Counseling-service Person assigned to Most Precious Blood and Saint Elizabeths'.

16. The Interim report for 1973-74 was printed and sent to the Region III office of USOE. Copies were given to the Super-

intendent of Schools, Members of the School Board, and Principals fo the participating schools.

17. An estimate of the financial status of the CCEM project was prepared and forwarded to the Budget Officer for USOE, Region III. This estimate was supplemented with an "HEW 601T" from Mrs. Defrancesco, Fiscal and Budget Supervisor for Career Education, School District of Philadelphia.

18. A photographic approach to the development of self-awareness was initiated at the Most Precious Blood Parochial School. This involved the project's Career Specialist in photographing students participating in career oriented activities within the classroom and on field trips. These photographs were displayed in the classroom and used as the basis for individual and/or small group discussions.

19. The rostering of the ninth grade class into trade exploration experiences was initiated and completed at the area vocational-technical school.

20. The student's selection for tenth grade shop was completed by the ninth grade class. Each year the ninth grade class is given first choice to make tenth grade trade selection, before students from other schools are considered for admission into the Dobbins AVT School.

21. Four special open-house sessions were held at the Philadelphia General Hospital, School of Nursing for the Seventh and eighth grades of the Most Precious Blood School and the Lowell Elementary School. These students were afforded hands-on and exploratory activities in the school's amphitheater, medical laboratory and practical training center. They had received instruction from the following hospital personnel: Registered Nurse, Doctor, Bio-medical Lab Instructor and Student Nurse.

ACTIVITIES AND EVENTS

ELEMENTARY LEVEL K-8

1. Weekly inter-school busing began in Septermber, 1974 with an orientation for the seventh grade class from the Lowell School at the Dobbins AVT School. The entire process involved parental contact and permission, discussion, tour, and a follow-up session at the home school.

2. A scale model of the Lowell Audio-visual Experience Room, developed by Mr. Ralph Pandolfi, was presented to the entire staff of the CCEM project at a staff development session. The project administration obtained the needed equipment from the Career Education Media Center of the School District of Philadelphia.

3. The career slide tape programs, which proved to be very successful at Most Precious Blood last year were reinstated in the first week of school.

4. Plans were made with the principal of the Most Precious Blood School for the inclusion of the entire faculty into the CCEM program during this school year. These arrangements included meetings with parents, staff development for teachers, and the allocation of space for a Teacher Curriculum Reference Center for Career Education.

5. The weekly inter-school busing of elementary school children to the Dobbins AVT School has been in full swing. Initially the elementary students were met in the CCEM office and escorted by a Dobbins' student to the various shops for exploration. The elementary students later reported to the CCEM office for assignment and proceeded on their own to the shops where they were met by a student shop representive. This procedure reduced the time lag from the time the elementary students entered Dobbins to the time he or she entered a shop.

6. This year our program included all of the teachers at the Most Precious Blood School. Several meetings were held with the staff in order that the K-8 classroom activities evolved as a sequence, as opposed to fragmented grade level activities. Some of the items re-

viewed by the staff were: (1) a thematic approach to classroom instruction; (2) "Developmental Program Goals" by the Center for Vocational Education at Ohio State University; (3) curriculum materials developed by Glen Bernie, Maryland; Newark, Delware; Augusta, Maine; New York, New York; Philadelphia, Pennsylvania; and by several commercial companies.

7. The seventh and eighth grade teachers at the Most Precious Blood School were involved in the field testing of career simulations. These were developed through a contract with the Alliance for Career Education at Ohio State University.

8. Staff development funds obtained through the Alliance for Career Education has enabled us to expand CCEM activities to the E. Washington Rhodes Middle School. Six (6) teachers at this school field tested career materials in Manufacturing and Entertainment. This is significent in that approximately 50% of the graduating eighth grade students attend the Dobbins AVT School in the ninth grade.

9. In order to see if different results could be obtained through various approaches to the Elementary Exploration at the AVT School the following was initiated in October 1974. The seventh grade students from the Lowell Elementary School came to Dobbins each week as a total class and were assigned to shops for exploration. Students from Most Precious Blood came on an alternating schedule of half a class at a time, the class was divided according to their reading and math levels at the home school. Each week one group attends Dobbins for exploration while the remaining group works at their home school on individualized study.

10. Trips into the world of work have taken place for specific classes from the two elementary schools. A record keeping, trip assignment book was set up by the project administration.

11. Simulation materials, developed through the "Consortium on Career Education," were pilot tested in the seventh and eighth grade classrooms at the following schools: Most Precious Blood Parochial, E. Washington Rhodes Middle, and R. E. Lamberton. This material involved the students in different roles with three cluster areas: Recreation/Entertainment, Government and Manufacturing.

12. The Vocational Evaluation Center has accomplished its mission to offer exploratory activities to the total ninth grade class at the Dobbins AVTS. Presently the

center is being used in conjunction with the counseling office for evaluation and reassessment of student vocational choices.

13. Mr. Earl Dodrill, Program Officer for VTE-USOE Region III, visited on January 21, 1975 for an orientation to the project. Progress of the project was discussed, schools were visited and several constructive suggestions were made. One suggestion was that the project administrators delineate its management objectives in a three year management plan, upon which a program evaluation could be based.

14. The CCEM K-14 project, upon notification of funding reduction, submitted proposals for additional funding to the School District of Philadelphia and the State Department of Education. The following proposals were developed and submitted for funding during the 1975-76 school year: Continuation of the Cluster Concept and Job Placement components, and the Consortium on Career Education-Ohio State University.

15. Notification was received from the Office of Career Education-HEW, that a proposal for expansion and improvements to an existing comprehensive career education model could be submitted for funding consideration. Meetings were held by the project director and school officials. A proposal was developed to expand CCEM K-14 to a new cluster of six schools in a sub-district of the School District of Philadelphia. An operational plan was developed for consideration by the district administration and principals.

SECONDARY LEVEL 9-12

1. The rostering of three hundred and twenty-one 9th Grade Trade Exploratory students was completed at the Dobbins AVT School. The shops into which the students were rostered were based on testing held during the 1974-75 school year, and interview data obtained from the admissions office of the Dobbins AVT School.

2. The school counselor was involved during the summer with the project in the rostering of the ninth grade students, the development of a counseling process and scheduling of programs for the Trade Exploratory Class.

3. A meeting was held with the Dobbins AVT School computer manager to devise a method for recording of cluster student grades.

4. A meeting was held with the Dobbins AVTS' shop instructors in order that all facets of the program involving the staff could be implemented as soon as possible. The components of the program operating within the structure of the AVTS are:
   (1) visitation of the elementary students into shops;
   (2) Trade Exploratory Class;
   (3) The cluster programs in Metals, Graphic Communications and Clerical Skills Lab;
   (4) Vocational Evaluation Center;
   (5) Job Placement Officer;
   (6) Project VICS.

5. The first 9th grade assembly was held on the first Monday of the school year. The Project Director, Counselor, Vocational Evaluation Center Manager and Vice-Principal for the TX class were introduced. The program was an orientation session to the Dobbins' TX program, its goals and rational, and to the specific personnel assigned to help students make a valid decision for the tenth grade vocational program.

6. The assignment of cluster students to the shops was completed. These students had two (2) more moves to finish the exploratory/skill training phase of the "Cluster 1" program. The specialization phase of the program for these students began in January 1975. (Note: For clarification, "Cluster 1" will imply those students which began in the cluster concept in September 1973, whereas, "Cluster 2" will imply those students beginning in September, 1974.)

7. The "Cluster 2" component began during this period with metals cluster students being selected from the new 10th grade students at the Dobbins AVTS. This year the Graphic Communications Cluster involved all students in the printing area.

8. A "Student Record of Skill Mastery" for each of the areas within each cluster was developed for individual record keeping and grading. Skill mastery records were kept, indicating specific tasks accomplished by the student in each cluster area. These forms are in the evaluation/trial stage, and subject to revision by the Shop Teachers.

9. A meeting was held with the Job Placement Officer assigned to Dobbins AVTS. Time schedule and population to be involved was agreed upon.

10. The ninth grade class has been exposed to a series of assembly programs designed to reinforce the objectives of

this program at Dobbins. Individualized counseling sessions have been held in an attempt to assist the placement of students in shops that match their career interests and aspirations.

11. The Vocational Evaluation Center, which includes the Singer-Graflex Vocational Evaluation System and VICS Computer Terminal, has evaluated the ninth grade TX class. It should be noted that aside from its evaluation aspect, this room offers valuable exploratory experiences in areas not offered at Dobbins. According to the Evaluation Summary generated by the Office of Instructional Systems, School District of Philadelphia, Dobbins ranks third in the city for the number of students using the computer system to obtain occupational information.

12. A proposal for staff and curriculum development at Dobbins was written. This proposal was submitted to the District Four Office for funding by the Principal of the Dobbins AVT School. Approval of the funds to involve four (4) academic teachers in the development of career education activities in their ninth grade classrooms was received. It is hoped that this will be a pilot program and be expanded next year to other grade levels.

13. This office was experiencing difficulty rostering Metals Cluster students into the appropriate shops for skill building. A meeting was held between the Principal of the AVT School, Trade Coordinators, and the CCEM administrators. The outcome of this meeting was the elimination of Machine Design from the Metals Cluster Component, but to retain the other four shops. The time schedule for the program was revised. A tenth grade student will now spend one quarter of the year in each of the following shops: Machine Shop, Sheet Metal Shop, Foundry Practice, and Welding. He will then choose the area he wishes to specialize in at the end of the tenth grade and enter a two (2) year specialization phase of the Cluster Program.

PROBLEMS

The following problems were incurred during this period:

1. Difficulty in rostering students within the metals cluster. One shop (Machine Design) had to be eliminated from our original five areas.

2. The Job Placement Officer assigned to the Comprehensive Career Education Model K-14 Office was on sick leave for two months leaving an important component of the program unattended.

3. We have experienced some difficulty with the scheduling of the bus service provided by the School District of Philadelphia. A conference with the Supervisor was held to resolve this difficulty.

4. The receipt of supplies and materials that have been requisitioned,through the school district office of supplies and management, have been subjected to long delays. This has caused some difficulties in our operation.

OTHER ACTIVITIES

1. The project administration attended a one day workshop, held in Philadelphia by the U. S. Office of Education, where guidelines for the Evaluation of Part D Projects were presented. The results of this meeting was forwarded to the Project Director, Division of Vocational Research, and the CCEM third party evaluator.

2. The Project Coordinator and Career Specialist attended the Regional III meeting for Directors of Part C and Part D Projects held in Linthicum, Maryland on August 22 and 23, 1974.

3. The Project Coordinator attended the "National Coordinating Conference for Administrators of Part D and FY 1973 Part C Programs and Projects, funded under P. L. 90-576" meeting held in Dallas, Texas January 27-30, 1975.

4. The Comprehensive Career Education Model K-14 project was called upon to offer imput for upcoming proposals for "Programatic Desegration." This came about through a consensus of opinion, that this project had successfully accomplished a viable model for desegration.

5. The 1973-74 "Interim Report" from this project received considerable interest by the interviewing panel and other members of the Phi Delta Kappa, a national educational fraternity.

6. The U.S.O.E. evaluation team has recommended that our project be funded for its' third year of operation.

SIGNIFICANT FINDINGS AND EVENTS

1. A greater amount of cooperation and willingness to particpate this year from the school that are involved in the activities of the program.

2. The clarification of the program's objectives allowed the second year to begin with a unified staff.

3. The career education office being housed at a school location has become a direct resource to the AVT School staff, and administration for career education. We have been called upon several times to offer imput into various components of the total school program.

4. Interests of the students coming to the Dobbins AVT School from Most Precious Blood and Lowell Elementary Schools has been maintained at a high level. Each group has had their Dobbins experience supplimented by trips into local industry on an equal basis.

5. It is the conclusion of the project administrators that bi-monthly exploratory experiences (e.g., Most Precious Blood) at Dobbins are more beneficial then those which are of a weekly nature by comparison.

6. As the program proceeds, and is successful, we are finding other schools requesting to be involved in many of the career education activities being generated by the Comprehensive Career Education Model K-14 Program.

DISSEMINATION ACTIVITIES

1. The project manager served as a resource person for a city wide conference to the Philadelphia Home and School Association, at which the topic of Career Education was presented and discussed at great lengths. This offered us an opportunity to provide information on the Comprehensive Career Education Model K-14 to a large representative group of parents.

2. The C.C.E.M. K-14 project conducted a workshop for parents and community people in conjunction with the Comprehensive Early Childhood Education Network, on Saturday, March 15, 1975. This workshop included a presentation of the C.C.E.M. K-14 project, answering questions related to the repetition of certain componants of this program in schools of District One. This conference accomondated approximately 250 school and community people.

3. The project administrators had 100 copies of the 1973-74 Interim Report and 40 copies of the Quarterly Reports reproduced. These were used by HEW for the annual evaluation and were widely disseminated to Divisional Offices, District Offices and school principals. Requests for this Interim Report increased as more people become aware of our project.

5. Dissemination activities included the distribution of the Interim Report for 1973-74, and meetings with the editors of CADRE and the District Four Communicator. These meetings were for the purpose of laying out a series of articles about the project. (see enclosure)

ACTIVITIES YEAR III
1975-1976

ACCOMPLISHMENTS

The following report covers the period from July 1975 thru to June 1976. During this period, of the third and final year the project administrators worked to refine the specific components of the C.C.E.M. K-14 program. The following events and activities were accomplished in order to plan for the continuation of the program with funds provided by the School District of Philadelphia.

1. A series of orientation and guidance programs for the Ninth Grade Trade Exploratory students was arranged for the school term 1975/76.

2. By the second week in September, inter-school busing was implemented between Most Precious Blood Parochial School, Lowell Elementary Public School and also with the Dobbins Area Vocational-technical School.

3. All ninth grade trade exploratroy students have completed 7-five week experience opportunities in programs of their choice.

4. A plan was completed for the preparation of a proposal to continue this program at the end of our federal grant. This was submitted, to Dr. Michael P. Marcase, Superintendent of Schools, School District of Philadelphia.

5. A joint meeting between supervisors from the following areas: Vocational Guidance Service, Career Education and Vocational Education was held to coordinate all programs and planning.

6. All the present ninth grade trade exploratory students have selected their vocational trade program to begin in September 1976.

7. A proposal for the continuation of the project was submitted to the Executive Director of Career Education and the Associate Superintendent for School Services. This proposal was well received and a final disposition is expected.

8. Construction of a new addition to the Lowell Elementary School (one of the project's school) was started with completion scheduled for the end of 1976. This addition will house an Instructional Materials Center and a multi-purpose room to enhance our career education program.

MAJOR ACTIVITIES AND EVENTS

1. The Career Specialist assigned to the project, Douglas Mahoney, participated in a Curriculum Development Workshop at Temple University. The goal of the workshop was to assist local school districts in developing curriculum. The results of this workshop was a publication titled "Career Education I" which defines career education from grades K thru 8 in behavioral objectives through a developmental approach. This publication provides a practical set of developmental behavioral objectives which will form the curriculm design and determination of career education for the program. It should be noted that a subsequent publication for grades 9 thru 12 is in the development process.

2. The project received visitors from the Washington, D.C. School District in September.

3. The Career Education Team, at the Lowell School, developed plans for the expanded use of program materials being used in the school's experience room. This year the team was assigned to work exclusively with the classroom teachers to infuse the concepts of career education into the regular classroom curriculum.

4. It was noted in the Performance Review Report (USOE, March 11 to 13, 1975) that the section on post-secondary articulation needed streghtening. The Project Director, Mr. Stanley Cohen, held meetings with administrators from the local community college and a plan was devised for the students to be accorded "advance status" when accepted at that institution. This approach will allow students to continue their education based upon past accomplishments and objectives instead of being forced to repeat that which he has already demonstrated a competency in.

5. The Performance Review Report (USOE, April 20 to 22, 1976) recommended that each school establish a Career Resource Center to be available to all teachers and students with the school. Plans for the accomplishment of this were completed at the Most Precious Blood Parochial School and Dobbins AVT School. At Most Precious Blood School the IMC was utilized for this center. Accumulated career related materials, a complet set of Pennscript with an occupational viewdeck reader, and a variety of slide-tape programs with accompaning hardware had been installed. Each classroom within the Most Precious Blood School contains career related audio-visual materials appropriate to that grade level. The Dobbins AVT School contained two career resource centers, one was used by students, the other was used by the professional staff. These centers focused upon the needs of the respective population. The student's center (aside from the college material available in the counseling office) had a viewdeck reader with a set of Pennscript (to supplement VECS) and other related occupational opportunities materials. The professional center had a Microfisch Reader with materials from the Vocational Education Information Network (VEIN), Career Education Curriculum materials, and re-

lated information collected from local and governmental agencies. This center formed the prototype of a sub-division career education clearing house with materials and information for dissemination.

6. Preparation for the printing of all developed curriculum for the Cluster Program, Ninth Grade Exploration, and Elementary Component was completed.

7. In cooperation with Ohio State University six new classroom simulations were introduced. They covered the following cluster areas: Trade and Finance, Natural Resource, Personnel Service, Construction, Transportation and Communication.

8. The field testing of eight classroom simulations, developed in cooperation with Ohio State University, by thirty-five teachers was completed and is now being evaluated. These simulations are based on the cluster concept and are used to infuse career material into academic classrooms.

9. A Career Planning Program was introduced into one high school (John Bartram), one area vocational technical high school (Murrell Dobbins), and one elementary school (Most Precious Blood Parochial) for field testing. This program involves eighty-seven, ninth grade students, three teachers and three counselors.

10. All grade levels involved in treatment were provided with speakers, field trips, and audio-visual materials to strengthen career awareness.

11. A visit was made by Dr. Michael P. Marcase, Superintendent of the Philadelphia School District, to our project school for observing first hand operational success.

12. The field testing of eight classroom simulations, developed in cooperation with Ohio State University, by thirty-five teachers was completed and is now being evaluated. These simulations are based on the cluster concept and are used to infuse career materials into academic classrooms.

13. Dr. Kenneth B. Hoyt, Director of Career Education in the U.S. Office of Education, was the guest speaker at a luncheon of the Philadelphia Home and School Council's conference on Career Education in Philadelphia.

PROBLEMS

1. H.E.W. notified the School District that financial reports for 1974/75 were not submitted per grant terms and conditions. The school district's office of accounting was notified to correct this oversight.

2. All curriculum materials developed has been collected by the project managers, however, printing into our final format will not be completed until later.

3. Notice was received from the school district accounting office that the anticipated surplus from F.Y. 74/75 was incorrect. This has caused a revised budget to be submitted to HEW U.S. Office of Education showing a reduction of $2,494.00 for F.Y. 75/76.

PUBLICITY ACTIVITIES

1. The Interim Report for 1974/75 of this project has been widely distributed to Board Members, Directors, Supervisors, and project schools. The Archdiocese School District has also received several copies and can use any or all information as they desire.

2. A new brochure was printed and disseminated throughout the school system and given to parent and all interested groups.

3. Our project was host to fifty-five visitors from Washington, D.C. School District. This trip comprised of parents and educators was to provide help and information for their efforts in career education.

4. Information about our project was published in local educational papers.

5. The project coordinator was requested to present the Comprehensive Career Education Program at the Twenty-eighth Annual Philadelphia Home and School Council Meeting. This year's theme was "Career Education - What are the Options?" 3700 persons attended this conference.

6. The project manager was requested to appear at a conference in Washington, D.C. by Joyce Cook, Part D Coordinator, to demonstrate Philadelphia's accomplishment in"Cluster Implementation."

DISSEMINATION ACTIVITIES

1. The Interim Report for the 1974/75 school year was prepared, printed and disseminated.

2. An updated brochure that specifically defines career education and states the major components of the Comprehensive Career Education Model was designed. Other programs, sponsored by the project director, which will form part of the Comprehensive Career Education Program for the City of Philadelphia are included.

3. Requests from School Districts outside of Philadelphia Pennsylvania were received and copies of the Interm Report and brochure were sent.

4. Reports, brochures and sample curriculum materials were sent to counselors and administrators within the Philadelphia system.

5. The Project Coordinator attended a conference at Columbus, Ohio, Ohio State University to participate in developing a high school career planning system and provide information about this project.

6. The Division of Career Education Planning and Development has published and disseminated information to all Philadelphia schools listing resources for implementing career education programs.

PROGRESS ON DATA COLLECTION AND EVALUATION PLANS

1. The Vocational Evaluation Center was prepared for the beginning of this school year. Every student in the 9th grade Trade Exploratory class was afforded an opportunity for exploration and evaluation before their choice had to be made for a tenth grade vocational program.

2. The Dobbins Inventory of Student Aspiriations (DISA) was designed by the project administrators and will be given to every student at the Dobbins AVT School. This inventory to be administered each year becomes part of the permit record of that student. It is planned this record will become the basis for vocational related counseling at the school.

3. The evaluation report, based upon observations and test data collected, was received and included in the Interim Report of the second year.

4. The Third Party Evaluator (Weston Associates of Weston Massachusetts) submitted a contract to the Philadelphia Board of Education and was approved. The evaluator held a two day meeting with the project staff for the formulation of evaluation plans for the third year of the project.

5. Our third party evaluator, Weston Associates, held meeting in the second quarter of this year with the program administrators for operation information on project and students accomplishments.

6. Ninth grade students (forty-two) had been pre-tested for our Career Planning Systems and post-tests completed.

7. Plans for final testing had been made to provide the third party evaluator with information for the final report to H.E.W.

8. Weston Associates held conferences with Mr. Douglas Mahoney, our career specialist, and a schedule for data collection was finalized. Weston Associates submitted their final report to the project manager during June for inclusion in our report to USOE.

9. Testing for one hundred seniors at the Dobbins AVT School was scheduled in April 1976 in cooperation with American College Testing Program, Richard J. Sticcins, Ph.D. This is for the development of a Career Planning Program and is a test-pretest reliability study.

OTHER ACTIVITIES

1. The rostering of the three hundred and twenty, ninth grade students for trade exploratory was completed. Each student was rostered to seven career explorations for the year, based upon their application to this program. This provides each student with vocational experiences, before a choice will be made for their tenth grade vocational program.

2. The Management Objectives for the third year were revised.

3. Our Career Development Specialist has approached other schools within our system to provide technical assistance for their inclusion of Career Development programs.

4. A replacement teacher in our Vocational Evaluation Center has received instruction in the use of the Singer Sound-on-Slide programs and our Computer Job Information Service and is performing satisfactory in this area.

5. Our career specialist was temporarily assigned to the Division of Career Education Planning and Development to prepare proposals for application to the state and federal governments, for program funding based on our experience with the operation of the C.C.E.M.

6. Project staff participated in the development of the "Philadelphia Five Year Plan" for implementation of career education throughout the system.

STAFF DEVELOPMENT

1. Staff development for this year was centered around the development of a viable Comprehensive Career Education Program which could be implemented into any school within our system. Staff development sessions were deferred for the summer with plans made for the following:

   1) Staff development sessions within each school to refine the materials and objectives that have developed over the past two years.

   2) Staff development involving thirty-eight teachers and three counselors for pilot and field testing of eight career simulations, and a career planning system. This program is in conjunction with the Center for Vocational Technical Education at Ohio State University.

   3) Staff development for twenty-five vocational teachers involved in the Elementary Exploratory Program at the Dobbins Area Vocational-technical School.

2. Bi-weekly meetings, with twelve elementary teachers and one principal, were conducted by the Career Specialist at the Most Precious Blood Parochial Elementary School to refine all program components.

3. Bi-weekly staff meetings were conducted by Mrs. Sherman, Principal of Lowell Elementary, with the career team (five teachers) to plan their implementation strategies for the K-8 program.

4. Joint staff meetings were held between the staff of the Lowell Elementary School and Most Precious Blood School to exchange program ideas and curriculum information.

ORGANIZATION AND PARTICIPANTS

MANAGEMENT

COORDINATOR (12 months)- The Coordinator served the School District of Philadelphia as a teacher, coordinator, and supervisor for sixteen years. Since 1973, has had direct responsibility for three federally funded career education projects.

CAREER DEVELOPMENT SPECIALIST (12 months)- The Career Specialist has served the School District of Philadelphia as a teacher and supervisor for ten years. Since 1972, has been involved with two other federally funded career education projects, "Room to Grow" (elementary, and "Time to Explore" (Middle/Junior high level).

Responsibilities jointly shared:

1. Supervision and management of the programs in all participating public and parochial schools.

2. Implementation of a "total" Career Education program through infusion of Career Development Concepts into the regular curriculum structures.

3. Meeting with representatives of business, labor, government and community organizations.

4. Fiscal management.

5. Staff and curriculum development at all school levels.

6. Supervision of elementary students exploration at the Area Vocational-technical School.

7. Ninth grade trade exploratory coordination (rostering, evaluation and 10th grade vocational placement at the Dobbins AVT School)

8. Program evaluation in conjunction with Weston Associates, Weston, Mass. and the Division of Research and Evaluation, School District of Philadelphia.

9. Preparation of fiscal, annual, and quarterly reports to the U.S. Office of Education VTE Region III, Penssylvania State Department of Education and the School District of Philadelphia.

SECRETARY (12 months)

Responsibilities:

1. Clerical duties
2. Key punch and computer operator for ninth grade trade exploratory rostering.
3. Field trip arrangements and coordination.

TEACHERS

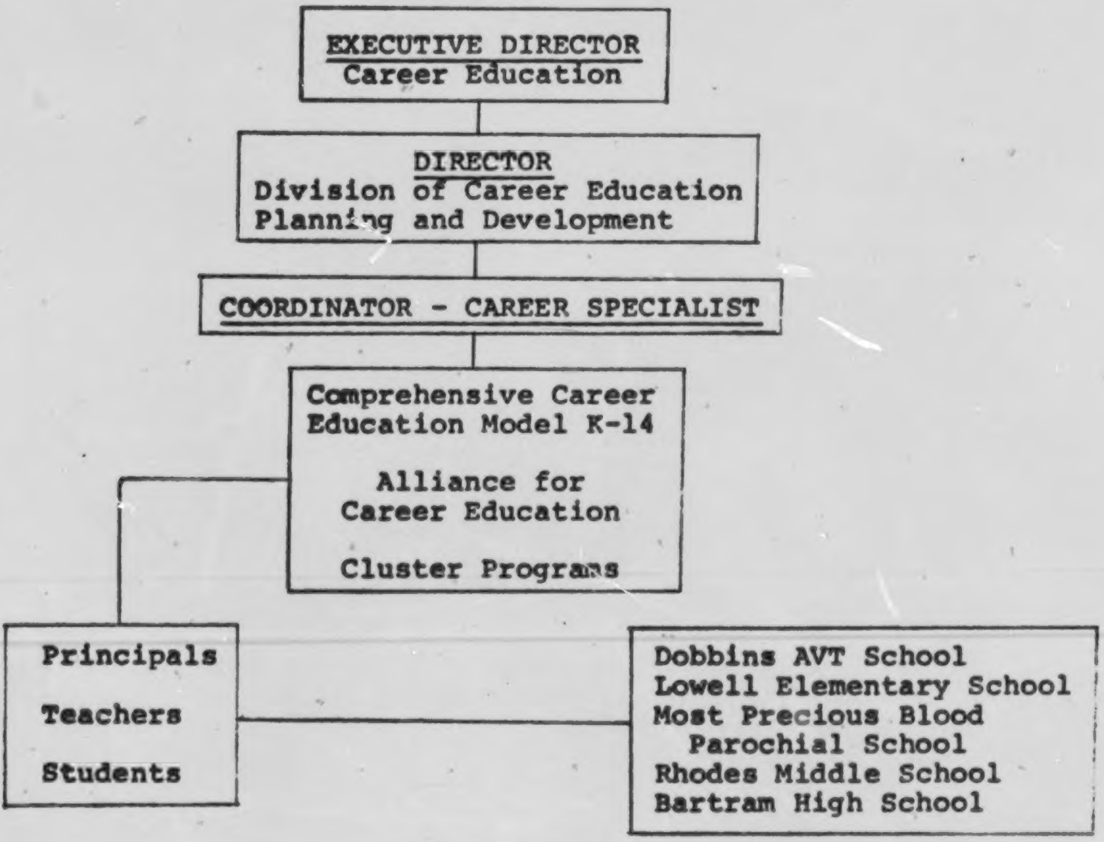
Lowell Elementary School - Two (2) positons

1. Resource persons for classroom teachers
2. Development and management of Lowell Experience Room
3. Supervision of technology labs and shared time exploration programs at the school for the 6th grade classes.
4. Technology oriented (K-6) curriculum development

Dobbins Area Vocational-technical School - one (1) position

1. Operation of the Vocational Evaluation Center.

ORGANIZATION


EXECUTIVE DIRECTOR
Career Education
DIRECTOR
Division of Career Education
Planning and Development
COORDINATOR - CAREER SPECIALIST
Comprehensive Career Education Model K-14
Alliance for Career Education
Cluster Programs
Principals
Teachers
Students
Dobbins AVT School
Lowell Elementary School
Most Precious Blood Parochial School
Rhodes Middle School
Bartram High School

STAFF EMPLOYMENT AND UTILIZATION

The persons directly involved with the activities of the CCEM program, their source of funding, and responsibilities are listed in the following table "A":

TABLE A

STAFF UTILIZATION TABLE

POSITION	FUNDING SOURCE	RESPONSIBILITIES
Director	Local	Administration
Coordinator	State (CCEM - Yr.1)	Coordinator of the CCEM K-14 program, Ohio State Consortium for Career Education, and Cluster Program.
Career Specialist	CCEM	Elementary school exploration, staff and curriculum development, reporting, and proposal development.
TEACHERS		
Elementary	CCEM/Local	Implementation of the program in the schools.
Secondary, Cluster	State	Implementation of Cluster Program at the Dobbins AVT School.
Clerical Skills Lab	Local	Operation of the Clerical Skills Lab.
Vocational Evaluation Center	CCEM	Operation of Vocational Evaluation Center
Counselor (Secondary)	Local	Trade Exploratory class at the Dobbins AVT School, and two (2) other trade areas.
Job Placement Officer	State	Placement of students into paid work positions.

NOTE: In addition to the above mentioned personnel, this office conducted staff development sessions for approximately 90 teachers and counselors.

POPULATION

SCHOOLS:

The criteria for participation in this project was based upon several factors. In order to effect maximum program efficiency three schools were originally selected, two of which contain a comprehensive K-8 program and one area vocational-technical school represented grades 9-14. This insured lower, middle and upper school linkages to promote continued cooperation in the development of a career education program to insure a coordinated, comprehensive curriculum at all grade levels and to integrate academic training and occupational experiences.

The population was integrated and representative of a large urban system. In addition, of the elementary schools participants, one school was public, the other parochial, thus insuring continued cooperation between public and parochial institutions and serving non-profit private schools whose educational needs were met by this project.

LOWELL ELEMENTARY SCHOOL K-8	MOST PRECIOUS BLOOD PAROCHIAL K-8
Students Enrolled 600	Students Enrolled 330
No. of Teachers & Counselors Participating 23	No. of Teachers & Counselors Participating 9

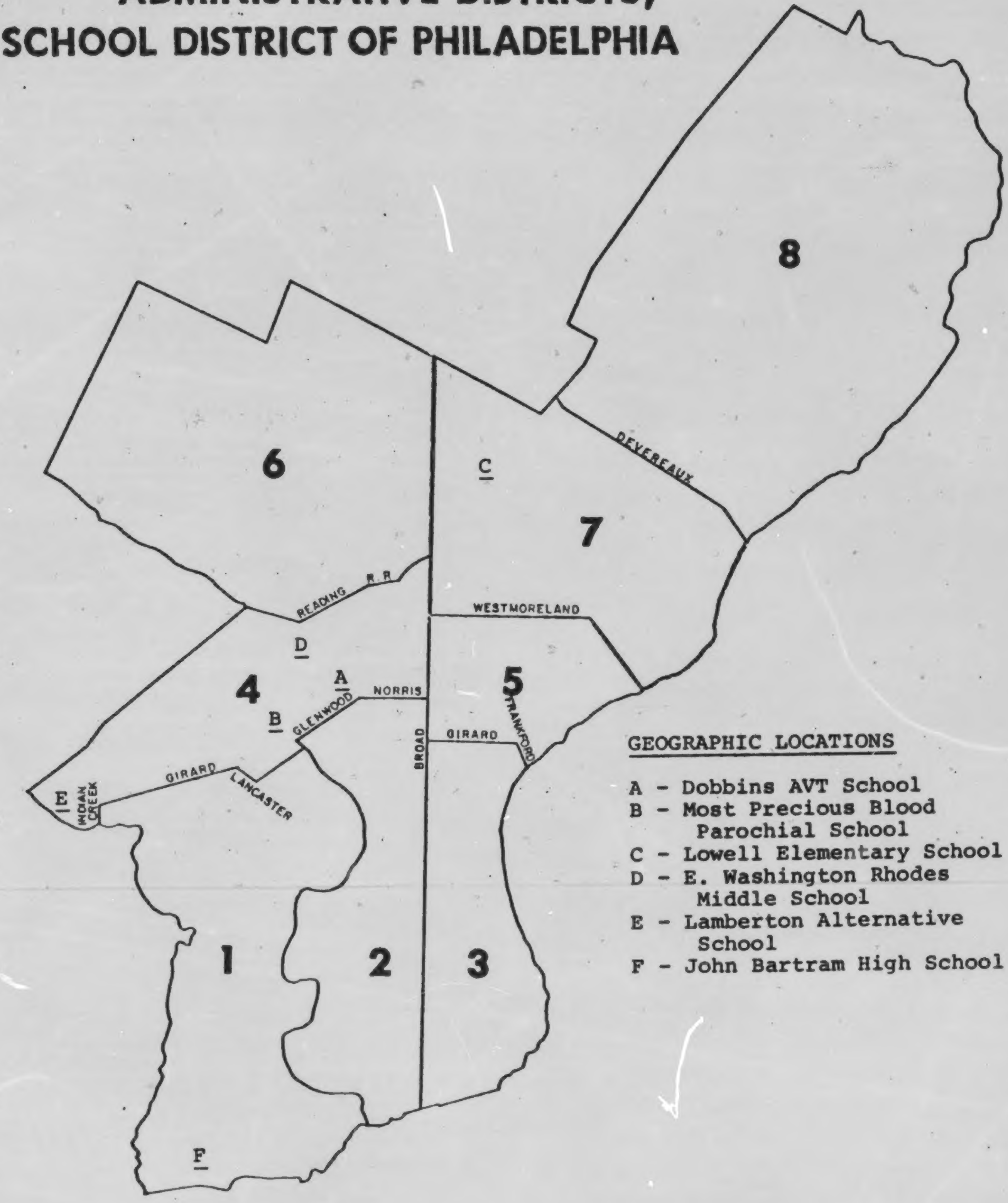
DOBBINS AREA VOCATIONAL-TECHNICAL SCHOOL
9-14
No. of students affected 1000
No. of Teachers & Counselors 56
Total Student Body 2,330

Two of the three schools were located in economically depressed areas of the city with the parents of many of the students in low income producing jobs or on public assistance. However, the larger Philadelphia area, of which this was a part, contains one of the most industrially and economically diverse employment opportunities in the country. Therefore, the opportunity to expand the horizons of those youth for whom the need is greatest was met by this project. Of the schools participating, the racial composition of two are predominantly black. The third predominantly white. This insures integration within the project. The proportion of disadvantaged students in the three schools respectively is 71% for Most Precious Blood and less than 32% for the Lowell School, and 73% for Dobbins.

The "Alliance for Career Education" curriculum development program was added in the total scope of the Comprehensive Career Education Model K-14, providing the resources for expanding career education into two additional schools. The schools selected were the E. Washington Rhodes Middle School (5-8) and the John Bartram Comprehensive High School (9-12). These schools provided educational units which were of different organizational structure and curriculum emphasis than the original three schools.

E WASHINGTON RHODES 5-8	**JOHN BARTRAM HIGH SCHOOL** 9-12
No. of Students affected 448	No. of Students affected 465
No. of Teachers & Counselors participating 14	No. of Teachers & Counselors participating 15
Total Student Body 1,504	Total Student Body 3,239

ADMINISTRATIVE DISTRICTS, SCHOOL DISTRICT OF PHILADELPHIA


8
6
C
DEVEREAUX
7
READING R.R.
WESTMORELAND
D
A
4
NORRIS
5
B
GLENWOOD
FRANKFORD
GIRARD
BROAD
GIRARD
LANCASTER
E
INDIAN CREEK
1
2
3
F

GEOGRAPHIC LOCATIONS

A - Dobbins AVT School
B - Most Precious Blood Parochial School
C - Lowell Elementary School
D - E. Washington Rhodes Middle School
E - Lamberton Alternative School
F - John Bartram High School

CAREER EDUCATION PARTICIPANTS

J. Russell Lowell Elementary School (K-8)

Principal - Mrs. Shirley Z. Sherman

Career Education Team:
- William Brown
- Virginia Johnson
- Ralph Pandolfi
- Albert Swartz

The above team works with all the teachers of the Lowell Elementary School on a regular basis.

Most Precious Blood Parochial Elementary School (K-8)

Principal - Sister Wm Marion Behrle
Teachers:
- Sister Betty Barry - gr. K
- Sister Assisium Day - gr. 1
- Denise Amon - gr. 2
- Sister Gianetta Gemi - gr. 3
- Cheryl Kittles - gr. 4
- Patricia Farrell - gr. 5
- Mavourneen Weiss - gr. 6
- Sister Loretto - gr. 7
- Sister Jane Bonner - gr. 8
- Rudolph Brigham - Counselor

E. Washington Rhodes Middle School (5-8)

Principal - Mr. Jacob Hoffman
Teachers:
- Marsha Album - basic sub.
- Christine Baker - art
- Joseph Baum - ind. art
- Linda Brouse - civics
- Cynthia Davis - science
- Richard Deno - ind. art
- Deborah Dupree - math
- Robert Franklin - soc. st.
- Margaret Harris - civics
- Barry Manin - soc. st.
- Alma Nelson - art
- Betty Riley - sci.
- Ellen Terry - math
- Alta Watkins - basic sub.

John Bartram Senior High School (9-12)

Principal - Mr. Louis A. D'Antonio
Teachers:
- Frank Battaglia - clerical
- William Conville - ind. art.
- Benigne Feriauti - art
- Bernadette Graham - secretarial
- Charles Gunter - ind. art
- Inez Herman - business ed.
- Robert Moorhead - health careers
- Oscar Packer - commerical exploratory
- Madeline Pierucci - soc. st.
- Julius Ponzio - ind. art
- Shirley Shumsky - secretarial
- Barrett Sprecher - bk.
- Samuel Wilson - ind. art

CAREER EDUCATION PARTICIPANTS

John Bartram Senior High School (contued)

Richard Wormley - ind. art
Harold Weiner - Counselor
Charles J. Tomasco - Vice Principal

Murrell Dobbins Area Vocational-technical School (9-14)

Principal - Mr. Edward Magliocco

Graphic-Communication Cluster:
- Morris Bunder
- Richard Hahn
- James W. Jones
- Richard Krug
- Charles Nevison

Metals Cluster:
- Angelo Ambrosano
- Herman Grossman
- Albert Newsham
- Walter Rafalko
- Jerry Smith

Vocational Shop Teachers:
- Richard Altieri
- Simon Bogonoff
- Irene Cherry
- James Coia
- John Frisch
- Joseph Frost
- Bernard Gurley
- William Haury
- Richard Hatch
- Atley Natalone
- Martin Rosen
- Gerald Solomon
- Herman Snyder
- William Toll
- Valadimir Weiss
- Harry Wichterman
- Nicholas Zacchie
- William Lagakos

Academic Teachers:
- Diane Bakum
- Kevin Brogen
- Igor Belinkoff
- Henry Degregorio
- Marian Fritz
- Thomas Herter
- John Roman
- Phyllis Rovner
- Bozhena Skalchuk
- Celiste Thomas
- Gloria Waterfield
- Robert Smith
- Yvonne Williams

Clerical Skills Cluster:
- Ruth Leavitt
- Jeanne Kushner

Counselor:
- Sandra Rosenfeld

V. ACCOMPLISHMENTS

ACCOMPLISHMENTS

The Comprehensive Career Education Model K-14 had a significant impact on the students, teachers and school administrators involved with implementation. The techniques, methods, and materials utilized by the program have become an accepted part of the regular curricula offerings at the project schools. Many of the components that have proven successful have been requested for use in other schools in addition to the original project schools.

At the elementary level, an emphases on career education concepts through an infusing process was evident in each classroom. The traditional curriculum content was covered, but related to "real-life" application, worker responsibilities, duties and characteristics. Career education experiences reinforced and expanded the learning of basic skills.

Desegration of schools and the increased interaction between children of different ethnic and racial backgrounds has been a controversial endeavor in many school districts. The school bus has been used as a tool in many instances to accomplish this goal. This approach, especially in urban areas has resulted in confrontation between the parties involved. The inter-school bussing of students in this project was used to provide career exploration experiences through the efficient utilization of existing resources. Seventh graders from a predominantly white neighborhood and school worked with high school students in a predominantly black high school. The sixth graders from a black elementary school worked with sixth graders at a white elementary school. These interactions involved cross district bussing within the City of Philadelphia. There was parental apprehension about the transportation of students from their home schools, but the benefits of this approach and the absence of problems between the students eliminated this initial "fear".

Soon after the start of the program a sense of belonging and companionship developed among all students. It should be noted this success in a large part was due to the planning by staff members from the schools involved. A great many girls from the elementary schools have taken an interest in shops that traditionally have been male oriented. The resistance to the inclusion of elementary students into several shop areas by the shop instructors has been completely dissipated. There is now a greater amount of inter-action between the shop teachers and these students, on a one to one basis. The shop teachers at the Dobbins AVT School have commented on many occasions that they are amazed at what these younger students can do.

Apprehension and concern was also shown on the part of the school staff regarding the involvement of elementary age students in a Vocational-technical school. The main concern was for the safety of these younger students. This was overcome by the use of senior AVT students as peer-teachers, with each AVT student assuming the role of teacher for one or two elementary school students.

The introduction of the Cluster Concept into a traditional vocational-technical high school was very successful and the school administration has fully adopted this concept as their standard procedure for all students in the shop programs.

Generally the major accomplishments of CCEM was the establishment of new procedures and a restructuring of already tried methods into an anticipated K-12 program. The project succeded in accomplishing more than the original proposal called for even though funding was reduced by approximately 40% for years 2 and 3.

VI. EVALUATIONS

[illegible]

THIRD PARTY EVALUATION REPORT

WESTON ASSOCIATES

THIRD PARTY EVALUATION REPORT

FOR

PHILADELPHIA COMPREHENSIVE CAREER EDUCATION MODEL, K - 14

FINAL PROJECT EVALUATION FOR 1973 - 1976

I. Introduction

This project was funded by the U.S. Office of Education in 1973 to develop a viable inner city model for career education in grades K -14 for the city of Philadelphia School System. Using a variety of resources and treatments the project was to develop a system, training, and software necessary for installing a city-wide approach for Career Education that combined existing and new resources and was appropriate to budget, staff organization and pupil characteristics of the City.

CCEM K-14 was initially funded for three years at $446,874 with a su bsequent administrative reduction in funds to $313,815. During the course of the three years the project served approximately 2,500 students at K-12, and provided training and curriculum development plus teaching esperiences for over 100 teachers and counsellors totalling one percent of the respective District populations.

Project staff was based in the Dobbins Area Vocational Technical School and the populations served included students and faculty at one parrochial elementary school (Most Precious Blood), one public Elmentary School (Lowell), and the Area Vocational School(Dobbins). Schools involved, treatments provided and Objectives developed are summarized on Chart I following.

While the major objectives of the project in Career Education were typical to the general goals for Career Education found in projects throughout the U.S. the strategies involved were unique to a large city comprehensive system and attempted to make optimum use of existing resources. The primary basis, therefore, for project evaluation must lie in the assessment of its management system, its present or potential viability for expansion within the School System, as well at the appropriateness and effectiveness of the elments and treatments involved in terms of adoption, student performance, cost and impact on the city district.

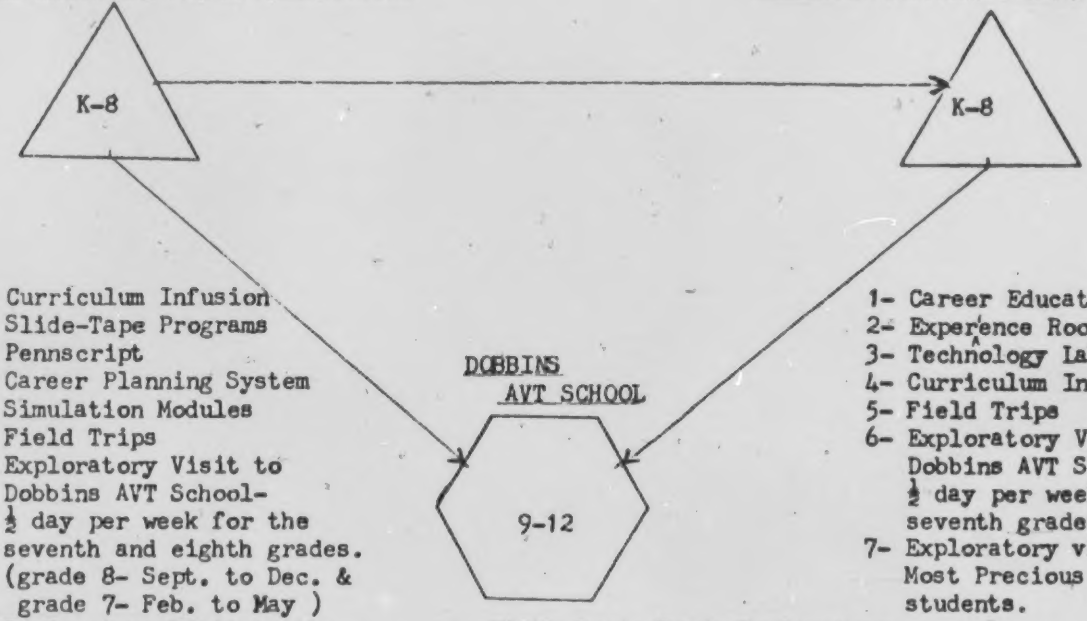
At the elmentary level the project sought to get joint development of objectives, curriculum and Career experiences by sharing the resources of a public and rpivate school and using the Area Vocational Technical School as a major exploration and experience resource. At the Secondary level the project sought to increase exploration, assessment and choices available for 9th Grade students within a traditional vocational-teachnical school, and to test self-instructional cluster oriented teaching methods and curriculum within three major vocational instructional areas of vocational education within the same framework. As support to these activities teacher training, resource development , counsellor system development and training, and a host of sub activity resources were selected and tested in combination.

COMPREHENSIVE CAREER EDUCATION MODEL K-14 CHART I

MAJOR OBJECTIVES:

1- To increase self awareness
2- To promote career awareness
3- To provide career exploration
4- To provide skill development in business, metals, and graphic-communications
5- To provide job placement

SCHOOLS AND ACTIVITIES



MOST PRECIOUS BLOOD PAROCHIAL SCHOOL

1- Curriculum Infusion
2- Slide-Tape Programs
3- Pennscript
4- Career Planning System
5- Simulation Modules
6- Field Trips
7- Exploratory Visit to Dobbins AVT School- ½ day per week for the seventh and eighth grades. (grade 8- Sept. to Dec. & grade 7- Feb. to May)
8- Exploratory Visit to the Lowell Elementary School by grade six- ½ day per week to use the Technology Labs with the sixth grade class at Lowell.
9- Classroom Use of Commercial Career Materials.

LOWELL ELEMENTARY SCHOOL

1- Career Education Team
2- Experience Room
3- Technology Labs
4- Curriculum Infusion
5- Field Trips
6- Exploratory Visit to Dobbins AVT School- ½ day per week for the seventh grades.
7- Exploratory visit by Most Precious Blood students.

DOBBINS AVT SCHOOL

1- Ninth Grade Trade Exploratory Class.
2- Cluster Programs:
    a- Metals
    b- Graphic Communications
    c- Clerical Skills Lab
3- Vocational Evaluation & Exploration Center.
4- VICS- Vocational Information Computer System.
5- VEIN- Vocational Education Information Network
6- Job Placement Officer
7- Elementary Exploration at Dobbins

STANLEY B. COHEN
Project Director

Douglas S. Mahoney
Career Specialist

John R. Maier
Project Coordinator

SCHOOL DISTRICT OF PHILADELPHIA
Divison of Career Education

The project also undertook placement activities for both part time and full time employment for vocational students.

In the second year of the project its goals were expanded (despite a reduction in funding) to seek cooperation with additional schools, testing of commercial materials (particularly at the elmentary level) and training of academic teachers both in vocational and academic settings to provide Career awareness and more Career-oriented instruction as part of their academic offerings.

In the final year all materials and systems developed by the project were tested and documented under operating conditions. A plan was developed for continued operations with the School District with local funding including projections for phased expansion throughout the system.

II Summary of Evaluation Results 1973 -1976

Over the three year period the project has met or exceeded its initially stated operational and management goals. (See Chart II, following). All elements of the K-12 system have been tested, revised and documented in packaged form for expansion within the school system. A plan has been devised, and accepted by the Board of Education to expand utilization of the project system and materiel throughout the School District on a phased basis. Most importantly, despite a $110 million operating deficit the School Board has voted to continue the project with local funding at a level almost 40% higher than the final year of Federal funding.

During the course of the second and third years project participation at the Elmentary level trebled to include five new public elementary schools and one new parrochial school. At the Secondary level phases of the project were developed in an additional Vocational Technical School and in one Academically oriented High School. Due to reduction in basic project funds additional sources of funding were sought which more than doubled the initial level of investment in the process for the last two years.

The project has developed for publication a complete set of goals and objectives for K-12 Career Education within the system along with a complete curriculum Guide including demonstration exercises and materials by Grade. Specific materials and sub systems to be tested in the project were tested and revised and are now in operation in non-project schools. Utilization of computer based counselling and information systems, stationary and mobile Career Information and Assessment systems, and Career Information research materials centers for teachers increased over 100% in project schools, and even more in schools with developmental connections with the project.

Dissemination of project brochures, results and materials plus meetings, briefings and visitations have touched all of the District management, the School Board the Home and School Council, the City and State Career Education Advisory Committees and even the Mayor's office. The project received substantial visitations from outside districts as well.

The project has built and infra-structure of not only materials but also some 80 trained personnel who will be used at their appropriate levels in installation of the project system in other schools throughout the District.

The project has accumulated in usable form by level lists of resources for student visits, career resource centers for schools and classrooms, counselling and

CHART II

THREE YEAR MANAGEMENT PLAN
for
COMPREHENSIVE CAREER EDUCATION MODEL K-14

GENERAL

AWARENESS

EXPLORATION

PREPARATION

GENERAL

YEAR I

1. To develop & implement career education activities in the following schools and grades:
Lowell Elem. - gr. 3, 6, 7
Most Precious Blood - gr. 1, 3, 7, 8
Dobbins AVT - 9, 10, 11 (Vocational).

2. To provide a monthly staff development sessions for teachers involved.

3. To implement the procedures necessary to attain the objectives of the CCEM K-14 proposal.

4. To provide counseling and job placement services for Dobbins AVT students.

5. To provide the School District of Philadelphia and HEW all reports, etc. required by the "Grants Terms and Conditions."

AWARENESS

YEAR I

1. To develop, adapt and implement classroom activites at Lowell and Most Precious Blood, which promote:
   - Self-Awareness
   - Career Awareness
   - Educational Awareness
   - Economic Awareness
   - Decision Making
   - Positive Attitudes

2. To provide "hands on" activities and role simulations in the regular classroom structure.

3. To provide small group counseling and discussion periods for all students.

4. To infuse career education concepts and activities into the regular curriculum structure.

5. To provide speakers, field trips and audio-visual materials for the students.

EXPLORATION

YEAR I

1. To provide exploration experiences in the 22 shop at the AVT school for 1/2 day a week for the two seventh grades @ Lowell and grade 8 at Most Precious Blood.

2. To provide "hands-on" activities at the Lowell school 1/2 day a week, for grade 7 from Most Precious Blood.

3. To roster each 9th grade student to explorative experiences in the shops and vocational evaluation center at Dobbins prior to making a tenth grade trade selection.

4. To provide every student at the Dobbins AVTS an opportunity to use "VICS".

5. To provide 80% of a counselor's time for the 9th grade class at Dobbins.

6. To provide 3rd grade Students at M.P.B., small group exploration of the shops at the AVT school.

PREPARATION

YEAR I

1. To provide a skill development program in the following clusters:
   - Metals
   - Graphic-communications
   - Clerical

2. To provide a tenth grade student selecting participation in the cluster program diversified and specialized training within each cluster

3. To provide students in the Metals Cluster training for entry level skills in the following areas: machine shop, welding, sheet metal, foundry practice and machine design

4. To provide students in the Graphic-communications's Cluster training for entry level skills in the following: linotype, letterpress, hand-composition, offset camera.

5. To provide eleventh grade students in the Clerical Cluster with a laboratory type environment using individualized modules of instruction for the development of entry level skills

GENERAL

YEAR II

1. To develop & implement career education activities in the following schools and grades:

   Lowell Elem.- K to 8
   Most Precious Blood - K to 8
   Dobbins AVT - 9 to 12
   St. Elizabeth - gr. 8
   E. Washington Rhodes - 6 teachers, gr. 7 & 8.

2. To provide a week long summer training session for teachers involved in year I.
   To provide bi-monthly inter-school and weekly intra-school staff development sessions.

3. To review and revise the procedures and treatments used during year I as a base for year II.

4. To provide counseling and job placement services for Dobbins AVT students.

5. To provide the School District of Philadelphia and HEW all reports, etc. required by the "Grants Terms and Conditions."

6. To expand the CCEM K-14 program within the participating schools.

AWARENESS

YEAR II

1. To refine, expand and implement classroom activities at - Lowell & Most Precious Blood which promote:
   Self-Awareness
   Career Awareness
   Educational Awareness
   Economic Awareness
   Decision Making
   Positive Attitudes

2. To provide "hands on" activities and role simulations in the regular classroom structure.

3. To provide small group counseling and discussion periods for all students.

4. To infuse career education concepts and activities into the regular curriculum structure.

5. To provide speakers, field trips and audio-visual materials for the students.

6. To develop,with 4 academic teachers at Dobbins',classroom activities infusing career education concepts into their regular classroom curriculum.

EXPLORATION

YEAR II

. To provide exploration at the AVT school for /2 day a week for the two seventh grades at the owell and seventh and eigth grades at the ost Precious Blood.

. To provide "hands-on" activities at the owell school, 1/2 day a week for grade 6 from ost Precious Blood.

. To continue objective #3 from year I, but o base the rostering of the shop exploration on he ranking of each students vocational interest' btained during the 1974 admission process.

. To provide every student at the Dobbins VTS an opportunity to use "VICS".

5. To provide 80% of a counselor's time for the 9th grade class at Dobbins.

6. To expand objective 6 (year I) to include grade 5 at M.P.B.

7. To interface the C.E. activities being developed by the academic teachers with the exploration activities already being used by the vocational staff at Dobbins.

8. To provide three simulations for classroom use, jointly developed by O.S.U. AND S.D.P.

9. To provide exploration activities through the use of a Mobile Lab.

PREPARATION

YEAR II

1. To provide a skill development program in the following clusters:
   Metals
   Graphic-communications
   Clerical

2. To provide a tenth grade student selecting participation in the cluster program diversified and specialized training within each cluster.

3. To place the Metals Cluster students from year I in a shop of their choice for specialization.
   To begin a new tenth grade Metals Cluster group.

4. Specialization for the eleventh grade students participating during year I
   Expand the cluster concept to include all students taking printing courses.

5. To involve the 12th grade cluster in an office simulation experience.
   To provide eleventh grade students in the clerical cluster with a laboratory type environment using individualized modules of instruction for the development of entry level skills.

GENERAL

YEAR III

1. To develop & implement career education activities in the following schools and grades:
   - Lowell Elem. - K to 8
   - Most Precious Blood - K to 8
   - Dobbins AVT - 9 to 12
   - St. Elizabeth - K to 8
   - E. Washington Rhodes - 15 teachers, gr. 7 & 8.

2. To provide a week long summer training session for teachers involved in year II.

   To provide bi-monthly inter-school and weekly intra-school staff development sessions.

3. To review, revise and compile all procedures and treatments used during year I and II.

   To expand to other schools to test the compiled CCEM materials.

4. To provide counseling and job placement service for Dobbins AVT students.

5. To provide the School District of Philadelphia and HEW all reports, etc. required by the "Grants Terms and Conditions."

6. To expand to other schools to test the compiled CCEM materials.

7. To provide a written analysis of the results, product & process of the model including successes, failures and proposal for diffusing the successful aspects throughout Phila. schools.

AWARENESS

YEAR III

1. To refine, expand and implement classroom activities at Lowell, Most Precious Blood, Dobbins, St. Elizabeths, E. Washington Rhodes which promote:
   - Self-Awareness
   - Career Awareness
   - Educational Awareness
   - Economic Awareness
   - Decision Making
   - Positive Attitudes

2. To provide "hands on" activites and role simulations in the regular classroom structure.

3. To provide small group counseling and discussion periods for all students.

4. To infuse career education concepts and activities into the regular curriculum structure.

5. To provide speakers, field trips and audio visual materials for the students.

6. To implement the activities developed during year II and revise and expand where necessary.

EXPLORATION

YEAR III

1. To expande exploration experience to at least one additional school at a vocational-technical center.

2. To provide "hands on" activities at the Lowell school, 1/2 day a week for grade 6 from Most Precious Blood.

3. To continue objective #3 from year I, but to base the rostering of the shop exsploration on the ranking of each students vocational interest's obtained during the admission process.

4. To provide every student at the Dobbins AVTS an opportunity to use "VICS".

5. To provide 80% of a counselor's time for the 9th grade class at Dobbins.

6. To expand to at least two additional grade levels within a school.

7. To interface the C.E. activities being developed by the academic teachers with the exploration activities already being used by the voc. staff at Dobbins.

8. To provide 8 additional simulations for classroom use.

9. To provide exploration activities through the use of a Mobile Lab.

PREPARATION

YEAR III

1. To provide a skill development program in the following clusters:
   Metals
   Graphic-communications
   Clerical

2. To provide a tenth grade student selecting participation in the cluster program diversified and specialized training within each cluster.

3. To provide job placement services for the students in the Metals Cluster from year II.
    To place the Metals Cluster students from year II in a shop of their choice for specialization.
    To begin a new tenth grade Metals Cluster group.

4. To provide job placement services for the students in the graphic-communications cluster.
    Specialization for the eleventh grade students participating during year II.
    Expand the cluster concept to include all students taking printing courses.

5. To involve the 12th gr. cluster in an office simulation experience.
    To provide 11th gr. students in the clerical cluster with lab type environment using individualized modules of instruction for the developemtn of entry Level skills.
    To provide job placement service for the 12th grade clerical cluster students.

assessment. It has pre-tested new materials and refined existing ones for use in the new Skill Center System for 9-12 students.

K - 8 CCEM Project has developed a successful system for coordinating resources of parrochial elementary schools with public ones. One side benefit has been the demonstration of the practicality of thematic integration. Initially anticipated problems of combining black and white elementary schools and using a predominantly black Vocational Technical school as a resource base simply did not occur due to the programmatic focus.

Curriculum, exercises and objectives for each grade at the elmentary school level were developed and validated. Existing curriculum such as Room to Grow, Technology for Children and the Alliance for Career Education simulation materials were tested and validated. Supplementary local materials were developed, and a Resource Center model was installed in each of the participating elementary schools.

A series of innovative projects and exercises were devloped at various grade levels emphasizing the inner city setting such as environmental modules. In the Lowell School a multi-media experience room was built by the students as part of their Career education practical experience.

Testing throughout the three years at Elementary levels indicated a high and continuing level of Career Awareness and indications of higher levels of abilities for Career Selection and emotional maturity. Indices in these last two areas, however, were extremely imprecise as noted in the final section on Testing.

The project proved the utility of using a VTS as a resource site and developed instructional objectives for student hand's on experiences during the visitation as well as teacher objectives for instructional use of these experiences after visitation were completed in their own classrooms.

9th Grade Trade Exploratory The project successfully installed a system for providing 9th Grade Vocational students with eight three week explorations of occupational areas during their first vocational year. Traditional drop-out rates during this year of 15% were reduced below 1%. At the end of the new exploratory year 68% of the students made and were placed in first choice occupational training areas which differed substantially from their entering choices. In 23% of the cases final choices were not even initially listed.

Administrative changes were effected which permitted students to reserve their final choices until late in the year when they had completed their exlorations.

The Guidance and Counselling systems were strengthened so that all students were provided with computer based exploration and job search opportunities as well as limited hand's on assessment of occupational areas for exploration through the Singer Graphlex system.

8th and 9th Grade Counselling Systems Through involvement in both project and non-project schools CCEM developed and tested computer based and mobile laboratory assessment systems for transitional year students in eight elementary schools throughout the District.

10-12th Grade Vocational Cluster oriented materials and processes were developed, tested and installed in the areas of Graphics, Business Education and Metals areas within the traditional AVTS setting. Through use of materials and teacher training the cluster concept was accepted and implemented in each of these three areas and piloted for use in the Skill Centers.

In all three areas the drop-out rates were reduced substantially (particularly the Business Education Cluster which was aimed specifically at this population). Staff adopted the cluster approach (as opposed to the narrow specialization traditional employed) and the AVTS administration in both this high school and one other are considering implementation on a wider basis.

Placement - within the Vocational setting the project enhance the part-time and full time placement capability of the AVTS which seemed to have assisted in drop-out reduction for project students. Over 100 students were placed in full and part time employment.

10 - 12th Grade Academic Career Education - Responding to evaluation suggestions in the first year of the project additional external funds were found to provide for staff training and materials development and utilization by academic teachers both in the related VTS setting and in an academic high school. These materials were piloted in the third year and are being used by a limited number of teachers in both settings.

PROBLEMS AND DEFFICIENCIES

Despite the relatively high degree of success noted above the CCEM project was unable to develop programmatically in certain areas due in part to limited resources and the developmental character of central office coordination of Career education with the the Philadelphia School District.

Grades 13 -14 While some attempts were made to seek advanced credit for vocational students in post-secondary offerings in local institutions of higher education, the system was never formallized. Lacking funding and access to Career programs at higher levels no curriculum development or staff training activities were undertaken.

In-Service Training of Teachers Administrator's and Counsellors -Systematization

While the project succeeded in providing relevant in-service training to more than 100 personnel in direct relation to the project the in-service system of the District offers no courses to assist in the installation of Career Education system wide. While the development of such an in-service emphasis to the existing system was beyond the purview of the project activity, it's lack will inhibit its future development within the system.

Post-Secondary - PreService Career Education professional Training and Certification

Again, while beyond the purview of project activities, it should be noted that the District has not set any pre-service requirements for professional staff in the Career Education area, nor has it negotiated at this time for the inclusion of relevant courses in the standard pre-service training of district professionals with local higher education institutions. Some such courses have been developed but do not serve as part of the required pre-service curriculum. This defficiency wasmost visible in the counselling area where academically certified counsellors at all levels are hard-pressed to implement Career Education services without a much broader preparation in Career Counselling techniques, materials and resources currently available within the system.

Parental Involvement While the project did an excellent job of parental information concerning the program at all levels, particularly the elmentary level, parent participation directly in the Career Education process as resources, counsellors and facilitators was limited. A substantial part of this deficiency was due to to the limited time and resources of the typical disadvantaged inner-city parent. Despite this serious difficulty it is hoped that as the model evolves a more concentrated effort will be made to devlop systems by which even disadvantaged parents can be integrally involved in the Career Education process beyond the information stage.

Evaluation Problems - while a variety of approaches were used to evaluate the project as a whole and by individual component, both its complexity and lack of nationally validated instrumentation inhibited definitive evaluation in student achievement particularly. No nationally validated tests of emotional or career maturity exist so all data in this area has been inferential in nature. Many of the premises regarding breadth of vocational preparation and its relationship to job mobility and placement require in-depth longitudinal assessment unavailable within the time and financial constraints of the project. Total systems performance tests will also require the test of time and Dollars within the system.

Evaluation procedures were the best available within the constraints listed above and are enumerated by year in the succeeding Section.

III EVALUATION PROCEDURES

Throughout the three year period process and systems evaluation was accomplished by monthly visits, conferences, and conferences with project staff by senior personnel of the Third Party Evaluator, Weston Associates. These revies included all current project documentation, reports, plans, testing data, and visitations to ongoing activities. Oral reports were provided monthly, quarterly reports were provided in letter form culminating in annual reports from which the material for this summary report is drawn.

Testing procedures and evaluation criteria varied slightly from year to year due to changes in objectives and new adminstrative requirements, therefore both procedures and results are described hereafter in a chrnonological fashion for Years I and II and III combined.

Year I Evaluation Procedures

At the recommendation of Weston Associates, Mr. MaHoney of Project Staff provided a search and adaptation of a variety of tested and validated materials covering career and self-awareness, as well as career orientation. Materials searched came from ERIC, the State Department of Education, RCU, and the Philadelphia School Career Education Center.

All materials collected were evaluated by project staff and instructional staffs at all levels with a final selection of materials and procedures done on a joint, participative basis.

1. Elementary School - K-8. Evaluation procedures and materials were jointly agreed upon between the evaluator and project staff at a meeting in May. There was agreement that lengthy testing would be difficult in schools other than project schools, and that the control-experimental group approach would not be either valid or easily implemented within project scope and budget. It was therefore decided to select and modify instruments to test evaluation procedures in June for full application in the Fall of 1974.

Instruments and procedures selected included the following:

- K-8 Career Awareness. Three single page instruments validated in other settings were identified by the contractor and project staff. During the month of June teachers at grades 3, 5, 7 and 8 have administered a single page questionnaire on types of jobs, another short questionnaire entitled "Some Things I have Learned About Careers", and a more general instrument entitled "How I Feel About Work and Careers" to a random sample of students in those grades. The results of both the testing procedure and the content is being evaluated by project staff and the third party evaluator.

- Maturity Indices. The two instruments selected by project staff and the evaluator arrived too late to be used in the testing process. During the course of the summer these instruments will be reviewed and possibly adopted for use with students in the Fall term.

- Summary Class Evaluations. Elementary school instructional staffs discussed and developed formats for project team and external teachers to summarize their subjective judgments of program effects on their classes. Short individual teacher reports are being prepared for review during the summer covering areas such as vocational and career awareness, problems in utilization of materials, successful and unsuccessful group practices, and the general utility of the project experience for teaching and individual growth.

- Critical Incident Measures. To be included in the above individual teacher report are a selection of specific successes and failures by given students as indicators of progress and problems for the program.

2. Career Exploratory Evaluations - Grade 9 (Dobbins). The career awareness and emotional maturity indices will be used with tenth grade entering Dobbins students on a comparison basis to students who have completed the ninth grade exploratory program.

Project staff will also document a comparison of initial choices made by students entering into the exploratory year as compared to their final choices at the end of the year.

3. 9-12 Cluster and Individualized Materials. Due to the late deployment of the individualized materials prepared, and the lack of availability of such materials in the communications and graphics cluster evaluation during the course of the first project year has had to be primarily dedicated to process and revisions of materials themselves.

During the course of the summer meetings are planned to continue discussions between instructional, project, and evaluation staff leading to the development of common methods of grading for both cluster and traditional students. Grading will be a key factor not only in evaluation, but also in the success of the use of individualized materials since the general criteria used for grading has been progress towards specialization within a shop area. Grading for cluster students using individualized materials must be focused on individual task performances on a much more discreet grouping of skills and knowledges. Commonalities not only for evaluation comparison, but more importantly for credit and acceptance within the present school structure must be found.

Evaluation of Placement Services. For a period of five months a placement officer was assigned to this program for full and part time placement of graduating students. Initial efforts seem to have been fairly successful over this brief period. Careful records are being kept of opportunities found, student records, interviews taken, and actual placements. The loss of a placement officer during this coming Fiscal year will require greater emphasis by the coordinators on placement of cluster students.

This project is testing the hypothesis that individualized instruction in job preparation will improve over the current standard group instruction, that a broad cluster base of knowledge and skills will make a student more mobile and more easily placeable than narrow intensive job training, that delay of occupational choice may improve the final choice, and that well designed, modular, and modifiable self instructional materials teach better than the current standard curriculum. While there is much data from the world at large in macro-economics and other areas to support the testing of these hypotheses, the final measurement of their success will depend on the type of longitudinal individual data traced through devices such as social security numbers and Federal data banks (whose access due to violation of privacy has been contested successfully by the ACLU and other organizations) that education has long been lacking. While inferences may continue to be drawn from highly limited data bases and critical incident measures, it is not apparent to this evaluator that the current projected evaluation system will yield the kind of scientific data really needed.

YEAR II and III Evaluation Procedures

Overall the procedures used in the second and third years of the project were identical . The only significan exceptions being that attitudinal questionnaires for Parents, teachers and selected students taken from another project and used in the second year were found to produce limited results due to low response and inability to provide necessary controls. These were omitted in the third year. Occupational Interest Surveys were run at the 9-12 level in the third year to initiate a student interest profile system for Counselling and Guidance in the AVTS setting. Procedures used included the following:

I. Elementary School - K - 8

Given the difficulties in the evaluation process, staffs at the Most Precious Blood Elementary School, Lowell Elementary School, project staff, and Weston Associates agreed to duplicate the first year's evaluation procedures

to provide some basis of comparisonduring this past project year. Due to an expansion of project staff's career education activities through other sources of funding, limited testing was possible in other than project schools in order to provide some comparative progress data. As noted earlier, these data could only be used as indicators since pre-testing was not possible.

Instruments and procedures selected for testing in June of 1975 at the K-8 level included the following:

- K-8 Career Information and Awareness. Two instruments validated in other settings and used in the 1973-'74 project year were used for testing of elementary school students at the two project elementary schools, Lowell Public Elementary School (grades 1-8) and Most Precious Blood Parochial School (K-8). Grades 3, 4 and 6 of the two project elementary schools and one control elementary school (also Parochial) were given a simple test asking the children to write as many different jobs as they knew about on a sheet with 30 blank spaces. The results of this open ended test were analyzed in terms of frequency of occurance of jobs common to the urban setting as opposed to those outside, jobs found on field trips taken, numbers of jobs listed, and occupational distribution by cluster in relation to national employment distribution and national demand distributions.

  A second test entitled "Occupational Information Inventory" was administered to the 7th and 8th grades of the two project schools, the 9th grade of the trade exploratory section of Dobbins Area Vocational Technical School and a comparison group of 9th grade students in a non-project elementary school (J. Cooke Elementary School). Test results will be discussed in Section II.

- Self-Awareness and Maturity Indices. Neither the initial year's search nor the evaluation instruments provided or suggested by the draft Office of Education guidelines provided any instruments for measuring progress in this area. However, two student attitude tests with questions relating to self awareness and occupational maturity were administered to grades 5 through 8 of both project schools. One was a "attitude inventory" previously used in the project, and the second was a "career education scale - student" devised by Dr. Joseph Freund that has been tested in Lincoln County, West Virginia project.

- Summary Class Evaluations. Elementary school instruction staffs were requested for short individual teacher reports providing a subjective summary view of individual class progress in areas of vocational and career awareness, successful group practices, appropriateness and success of treatment materials, and the general utility of the project experience for teaching and individual growth.

- Critical Incident Measures. Teachers also provided brief examples of individual successes or failures by given students as indicators of progress and problems within the project.

2. Career Exploratory Evaluations - Grade 9 (Dobbins)

The occupational information inventory test noted in the previous section was also used with the Trade Exploratory (Experimental Program) students at the Dobbins Area Vocational Technical School and a comparison group of 9th grade students at the J. Cooke Elementary School who were being provided other occupational information experiences were tested as well.

Project staff documented a comparison of initial choices made by students entering into the exploratory year at the Dobbins School as compared to their final choices at the end of the year. Previous to the establishment of the CCEM-K-14 Project, students were schedulled at all the area vocational schools into one of their first three choices and not permitted to change. The measurement of choice selection, therefore, was to get indications of the impact of the providing students with additional career exploratory experiences in shop settings upon the choice process.

3. 9-12 Cluster and Individualized Materials

During the 1974-'75 year, individualized materials became available for the Office Occupations cluster and the Metals cluster. The cluster approach was adopted for use by the communications cluster, although Sound on Slide and individualized materials were not yet available or developed for testing with this group of students.

The use of the cluster approach and the individualized materials were evaluated on the basis of changes in drop out rates, student progress, increased enrollments by women, and placement records for both part time and full time employment.

IV. DETAILED RESULTS OF EVALUATIONS

Year I - Administration and Systems

Although the evaluation design and process for the First year did not coincide on a point by point basis with the suggested Guidelines for fy 75 of USOE (later withdrawn) a great deal of observational, critical incident and test data was collected that was used as a basis for subsequent annual evaluation comparisons.

Despite project "start up" problems some significant general indices of sucess were noted in the initial year.

- The cluster concept and materials have proven to be sufficiently flexible so that the cluster approach has been adopted in each of the three areas.

- Instructional staff have already begun to develop their own modular materials to supplement that with which they were provided. This includes the development of additional specific materials in the graphics cluster where none existed.

- Attitudinal changes by individual instructors within each cluster leading to fairly enthusiastic acceptance and use of the material have been quite evident.

- Utilization of cluster and individualized materials have permitted elementary school students as well as career exploratory students (9th grade) to develop significant knowledges and skills in relatively short periods of time without disturbing overall class development.

There are already several instances of students who have changed choices as a result of exposure, including a female student who chose printing initially and changed to commercial art for example.

Over 90 percent of the exploratory students were able due to delays in rostering to receive their first choice in elections of training. Of the remaining 10 percent, a substantial amount of counselling was done by the project counselor and project staff, resulting in acceptable selections and rostering of these students in areas of interest.

Project Team Building - a very necessary element in any experimental project in a highly institutionalized system has seemed to be accomplished successfully. There is high unpaid participation by the teaching staff a great deal of enthusiasm, and a good deal of teacher-to-teacher dissemination work;

Curriculum Development, Changes, Modifications and Diffusion - In the elementary grades new curricula has been developed not only for the direct career instruction, but also for career and self awareness elements of normal classroom instruction by teachers throughout both elementary schools. The most dramatic area of project success lies in the introduction of individualized cluster materials for career exploration in the ninth grade at the regional vocational technical school. Three major curriculum areas have successfully shifted in one year into a broader exploratory program that is highly individualized and that even permits hands-on activities by visiting elementary school children. At this writing, the summer training sessions are over, and specific curriculum modulars formats as well as specific materials, have been developed for grades K-9 to add and improve on the work done during the first project year;

Changes in School Procedures that have been Inimical to Career Exploration and Career Choice by Students - A number of small instances of this have been visible in K-8 ranging from simple changes in teacher attitudes to changes in rules regarding travel and external experiences. The most dramatic impact has been in the area of scheduling for ninth grade students at the vocational technical school. By permitting final selection and choice of entering tenth grade students to the Spring of the year students were permitted to explore more broadly in a number of cases change their choices based on this exploration;

Development of Working Formats for Curriculum and Career Experiences - Project staff and teachers developed new objective based formats for trip experiences, use of visual and A/V support materials, as well as development change and documentation of cluster materials and K-8 exploratory materials. These formats seem to be adequate to properly capture the curriculum development used while at the same time, not too labor intensive as to inhibit adoption and use by other schools.

Year One - Testing Results

Career Awareness

A series of instruments were applied to grades 3, 7 and 8 in the two experimental elementary schools to test career awareness. As the objective of the project was to involve the total schools in career programs, control groups for comparison would have to be sought from other schools. While it is hoped that awareness and other types of testing can be used as part of the diffusion process to introduce new elementary schools within the Philadelphia area to the career education programs and concepts during the first year of the project, it was found that even the limited amount of testing involved was considered to be too onerous by school management and personnel within schools external to the project. Therefore, uncontaminated control groups were not available and all test data and results discussed hereafter have no National or local basis of comparison that is data supported, although certain inferences can and have been drawn.

Grade Three - A simple test was applied to the entire third grade population of both the public and private elementary schools. This test consisted of asking children to write as many different jobs as they knew about on a sheet with 30 blank spaces. In one hundred per cent of the cases students filled all thirty spaces with different jobs they had thought about. In more than fifty per cent of the cases, students exceeded the 30 spaces and wrote additional jobs they knew about up to in one case a total of a hundred and twenty-seven by one student. Without question, the numbers of jobs the students could think about were greater than those produced by students who had previously used this examination in relation to more limited exposure courses. Of even greater interest is the fact that the range of jobs the students described ran from astrologist to zoo keeper and included somewhat esoteric jobs such as cotton picker, LaCrosse player, typesetter, tool maker, keypunch operator, X-ray technician, silversmith, miller, dietician, boat builder, belly dancer, butter maker, "spa person", shipping clerk, puppeteer, roofer, and even "vice-manager". While the highest frequency of appearance jobs did tend to be those found in a normal urban environment, it was interesting to note that most of them were not glamour jobs such as spaceman, astronaut, or engineer or physician, etc. It was further interesting to note that rural in addition to urban jobs appeared with some frequency with categories such as blacksmith, lumberjack, cotton picker, and others appearing fairly often.

The diversity of jobs that the students knew about or were interested in also demonstrated a realistic career awareness in that the bulk of them were sub-professional with a realistic mix of professional people and people from the arts, as well as technical personnel. An analysis done by Mr. Douglas MaHoney shows that the occupational mix reflected by the jobs described is significantly close to the current and projected categorizations of manpower generally across the Country, with the single exception of lower than average job descriptions in the sales and business area, and higher than average job description in the "outdoor". This type of realism is excellent demonstration of career awareness, both in the specific and in the abstract.

Reactions were also sought from third graders concerning their visits to the Dobbins Regional Vocational School. These reactions evidenced a first time understanding of the occupational training process, pleasure at being able to participate in hands-on experiences, and a strong interest on the part of many of the girls in traditionally male areas such as auto mechanics, welding, and printing.

Teacher comments from both elementary schools indicated a high level of interest by grades one through five in the visits experiences and an apparent carryover of this interest into discussions and projects in the various classes.

Career Awareness - Grades 7 & 8. A twenty-four item true and false and multiple choice combined test relating to specific items of knowledge concerning careers was given to the total 7th grade population of the public school, and the total 8th grade population of the primarily minority low socio-economic population of the private school. Average scores on these relatively complex tests were 74 and 77 percent respectively. Although this is a respectible average by itself, it was skewed downward by a limited number of items whose validity in terms of mode of statement is somewhat questionable. More revealing is the fact that 70 percent of the questions were answered correctly by 80 or more per cent of the students. Twenty-five per cent of them were answered correctly by all the students, 58 percent of them were answered correctly by over 90 per cent of the students. Averages were slightly lower for the 8th grade private school students, although these again were significantly skewed by two or three questions.

Questions in which there were a significant number of wrong responses covered dental technology, plastering, and machinists. The mix indicates no particular problems with either medicine as an area or construction or manufacturing skills, but seems to simply indicate that the questions could be better rephrased.

In addition to these definitive tests, a short attitudinal questionnaire containing 19 "yes or no" items, and three open ended questions were given to the entire 7th and 8th grade populations of both schools. Questions covering students' belief concerning the importance of work showed that on the average more than 85 percent of the students felt that work was extremely important. Two questions concerning the interest and attitudes towards different types of work indicated that a significant majority of the students felt that many good jobs did not require a college education, and an even more significant majority felt that jobs in which one worked with ones hands or became soiled were as important as jobs in which this was not true. Given the fairly typical bias of lower socio-economic groups to feel that these categories of jobs are demeaning this indicates, in my opinion, a fair level of sophistication in their attitudes towards careers. Interestingly enough, only the private school 7th grade indicated that they spent much time talking to their parents about careers.

In a series of questions relating to factors that were important in career or job choice, there was significant unanimity on the fact that money is important, and even more significant unanimity on a series of questions indicating that job satisfaction was basically more important than the financial considerations. Over 90 percent of the students agreed that cooperation and "getting along" with co-workers was a critical factor to job satisfaction and success. A series of questions that related to student evaluation concerning their feelings about the program and its efficacy indicated that more than two thirds enjoyed the program, less than 10 per cent would wish next year of school to be empty of career programming, and more than 85 per cent felt they had learned a great deal about jobs in the first year of the project. Only one relatively negative aspect appeared in these questions in terms of career exploration skills, where only slightly over 50 percent of the students stated they liked to watch people at work on field trips. In fact, only the private school 7th grade indicated a high interest in doing this. It is unclear as to whether this is a problem with the question or the questions placement, or indeed an attitudinal disposition of the students.

Self-Awareness - Grades K--8

As noted in the previous section, emotional maturity indices arrived too late to be given to any part of the "treatment population". However, many of the questions relating to values of different types of work, mix of occupations known about and reported on, values of cooperation and compatitive values of job satisfaction versus money, and descriptions of what work is, indicated on the part of the evaluator some substantial maturity on the part of the students within the program. Again, given no National data base or recognized measures of self-awareness, this is admittedly purely subjective judgment. This evaluator is looking forward with great anticipation to the self-awareness and National maturity indices produced for use in the next two project years.

Two of the open ended questions on the last test discussed related to "things that made students feel important and things that were important to the teachers". The answer to the first tended to be grouped around achievement, learning, responsibility, and self satisfaction. Considerable emphasis was placed in the area of being of help or use or service. Answers to the question of what was important to their teacher, basically related to teacher concern with the general education and future well being of the student with emphasis on values and standards. Again, it is the evaluator's opinion that these answers show a substantial amount of maturity and self-awareness on the part of these students, particularly considering the socio-economic status and backgrounds of many of them. However, again, standardized tests with a National data base will be most welcome.

Comments by the private school students regarding the overall program indicated concern with such things as sharing, enthusiasm, and responsibility. Substantial emphasis was placed by the black students on the fact that color was no barrier to learning and sharing. Equal emphasis was placed on the fact that they felt they had been given to and wanted to in turn respond by giving.

Undocumented in this report, but within the student data base are a number of similar responses regarding the color barrier on the part of the white public school children. In addition, both private and public school children have indicated a new knowledge and interest in occupational training and a decrease in fear of the size, complexity, and "gang neighborhood" situation of the vocational school.

While over 80 percent of the students felt that they learned many things in school which they would later use on a job, only 47 percent of them felt that school subjects "seem to fit in with careers". In this question three of the classes averaged only 37 percent.

Lastly, a question relating to whether it is proper to change jobs showed a high positive response for public school children with a much lower positive response for private school children.

This 19 item test was followed by three open ended questions to the students concerning the difference between work and play, things that make them feel important and things that are important to their teachers. In all grades the words used to describe work were money, helping, responsibility, important, success, pride and respect. Interestingly enough, play was not always seen as the antithesis of work despite the statement of the question with finer and finer discriminations made by various students up to and including one student who stated that there was really no difference since "if you enjoy work, it is like playing".

The answers to the subsequent questions relate more to self awareness (as do some of the items above) than career awareness.

The evaluator is fully aware that test populations are extremely small, amount of testing was limited, tests had not been validated either Nationally or within the State, and both he and the staff were concerned that no real National instruments of awareness or maturity that were graded by level or had any type of ease of administration (beyond vocational preference tests) were available. In terms of ultimate scientific inquiry and purity of data, most of the testing therefore done in the first year of this project would be highly suspect. However, it appears to the third party evaluator at least that the testing that was done indicated a substantially high level of career awareness, interest, maturity and program success.

Career Decision Making 9-12, Placement, Job Preparation. The degree to which all three of these factors were measured in this project was described in the first section. Although measurement was limited, there were some indices of success in each category. Testing in Fiscal '75 plus comparisons of entering versus finished 9th and 10th graders should give the project a better measure of career awareness and and career decision making where selection is possible to the students. Measuring placement in "all grades" seems somewhat foolish, however, final placement activities in this project for both "drop-outs" and graduating 12th graders seem to have been fairly good due to addition of staff within the project. The need is sufficiently great and the demand sufficiently limited so that it seems difficult within the next year or two to examine with any care other placement factors such as placement in summer work, placement in work study or cooperative programs, or placement in short to longer term unpaid experiential situations on the Parkways or ACE model. It appears to this evaluator that development of placement mechanisms of this kind where possible is a more important measure than the standard measurement of job placement in training or interest related areas. One of the historical failures in evaluating vocational programs has been to discount all placement of graduates into the military, continuing education, or even relatively unrelated jobs as part of the evaluation of program performance.

Years II and III Administrative Systems

Based on the first year's evaluation it became apparent that in order to introduce career education concepts into a parochial school setting and into less innovative elementary and middle schools than the Lowell School, a more formal curriculum-based approach needed to be taken. Given the success of the project in the first year and review by State personnel, staff was able to seek and get addtional $76,000 of state funding to purchase both materials and technical assistance from Ohio State University for introduction of the OSU curriculum including the World of Manufacturing and World of Construction plus government, entertainment and recreation curriculum exercises (as indicated by student preferences during the first year) for use in a number of additional schools. Through Ohio State materials and staff assistance, the project expanded into the East Washington Rhodes Middle School, SayreJr. High School, and Cooke Jr. High School, involving a total of an additional 14 teachers in art, industrial arts, and a variety of academic subjects. At the high school level, the operations of the career planning system including the computer based search system (VICS) was expanded by this project to serve the R. E. Lamberton Alternative School. The OSU Career Planning System was introduced into the Lowell School and the Dobbins Vocational Technical School. At the elementary level OSU materials were also made available with teacher training for the Most Precious Blood School and expanded into St. Elizabeth's Parochial School at the 8th grade level.

Also as a result of first year evaluation and other sources of funding, the project expanded both its curriculum development offerings and its field trips to provide a wider range of academically based experiences for both elementary school and Dobbins Area Vocational Technical school students. Field trips at the elementary level included a continuing relationship with the School of Pharmacy at the University of Pennsylvania (Temple), visits to city government, court systems, etc. At the Dobbins Area Vocational School, a project was begun involving four academic teachers to develop individualized curricula related more directly to the occupational curriculum offered in the school in support of both the 9th grade TX program and the academic support for the cluster programs in metals, communications, and business.

Project staff was heavily involved in developing career planning and career education staff training alternative in the academic 9th grades of the junior high schools and in the 10th grade of a senior academic high school. It should be emphasized that although these activities occurred through separate funding, they were consolidated into central project staff activities and coordinated with the CCEM K-14 project. This demonstrates not only the CCEM K-14's success and ability to gain additional funds, but also the School District of Philadelphia's committment to beginning to consolidate its approaches to career education across the city.

Dissemination activities concerning project operations also were expanded during the course of the 1974-'75 school year and included several meetings with the city-wide Vocational Advisory Council to provide both information and access additional visits. A number of meetings were held with elementary school parents to attempt further parental involvement in the project, and a presentation was developed for the city-wide Home and School Council to familiarize them with career education and its potential for use throughout the city. The project developed several small publications describing itself and some activities which were given substantial distribution, and each of the school sites received a number of visitors from other schools throughout the district as well as from outside of the city. Of particular significance were visits by the superintendent and his staff to various schools, as well as visits from the Office of the Mayor.

In the same vein, staff at both of the project elementary schools made numerous presentations throughout the year at professional meetings, parents associations, etc.

At a more pedestrian level, the central staff was able to access the career education materials center and provide listings of materials of all types for use by both the elementary schools and the other project schools. With the formalization of the process, considerable increased utilization of materials occurred within all the schools participating.

Staff Training - During the month of August in 1974, a week long staff training session was held for all participating faculty from both elementary and secondary levels. Formats were developed for the documentation of curriculum produced during the course of the first year, and the staffs met first as a group, and subsequently in their own school to present curriculum materials and formalize them for final testing during the second year prior to distribution in the third year. The interaction between the secondary level vocational technical faculty and the elementary level faculty proved to be quite significant in apprising both sides of the overall process and increasing the effacacy of the given elements. Curriculum materials developed during the second year of the project continue to be collected by a central staff. One member of the central staff has elected to pursue additional course work towards a doctorate during the summer of 1975, and will make the development of further grade by grade objectives and packaging of the curriculum materials tested during the second year a basis of his course work.

Project Expansion - During the course of the second year career education materials both from the Ohio State University project and from the career education materials center were used as a basis for expanding the career education program into all grades and classrooms of the Most Precious Blood Parochial School. The staff at Most Precious Blood shared their experiences and their materials with the St. Elizabeth's Parochial School for initial involvement of the St. Elizabeth's eighth grade classes including visitations of St. Elizabeth students to the Dobbins Area Vocational Technical School. The visitation sequence was changed so that students came for a single term only on a class by class basis, and were accompanied by the parochial teachers on their visits. The practice of using older students as guides for the younger ones was continued quite successfully. During the course of the visits skill mastery records were developed and kept for use by classroom teachers back in their elementary classrooms. Further, the individualized materials used in the Metals, Communications and Business clusters proved to be quite successful in enabling elementary school students to get short term orientation or exploration experience simultaneously with older students taking the regular course contents.

Career Information Resources - The computer based vocational information system at Dobbins showed a 62 percent increase in student utilization and 41 percent increase in number of explorations done by the students during the course of the year. The efficacy of this process was increased by the use of student monitors. Student explorations in the Singer Carrells also increased, although cost of Carrell utilization remained quite high on a per student basis. The School System of Philadelphia has funded the development of a mobile laboratory carrying Singer Carrells from one elementary school to another. As a result of this project's participation, students in both public and parochial schools within the project were provided with career exploration services of the mobile laboratory and accompanying staff.

Other Activity and Remaining Problems - As a result of the project the Lowell Elementary School received limited funding for the development of an Audio Visual Experience Room providing a 180 degree coordinated tape-slide surround for both Lowell students and students visiting from the parochial elementary schools. Lowell students in the last three grades participated substantially in the construction of the experience room and in the development of some of the materials for the programming thereof. Some of the general programming that has been developed relates to career exploration , and staff has been exercising efforts to get slide-tape materids from employers working with the career ed project.

Secondary Level Placement - Despite reduced project funding, central staff was able to receive the services of a half-time placement officer for secondary school students at Dobbins engaging in the exploratory and cluster-based programs. During the course of the year, this officer was able to provide some 53 part time work-study placement which seemed to have contributed to a lower drop-out rate and greater for-credit experience for students in areas of their choice. Since this is only the second year of the project full time placement of graduates is not attempted, although some full time placement of students selecting to go into World of Work prior to graduation was done by the various area coordinators. No results were evident in terms of comparative ease of placement of cluster students versus students who had prepared themselves through the more traditional area vocational school process.

Problem Areas - Transportation problems were lessened in the second year of operations for field trips and visits to the Dobbins Area Vocational School. They, however, appear to be endemic and persist at a lower level which tend to disrupt the project to a small degree. Of somewhat greater significance has been the lack of development of any clear strategy for parental involvement particularly in the elementary grades. Although the public elementary school has successfully used a committed number of parents to provide field trip experiences, transportation and other project support activities and all schools not only sought parental permission, but scheduled evenings for parents to be briefed regarding the project, no clear method has evolved for involving a significant percentage of the parents in the learning process. In the parochial school this seems to be a function of lower income and insufficient time on the part of the parents to participate. A community involvement person was successful in getting interest of other parochial schools, but has not yet found a key to greater parental involvement with the content of the project.

Due to a significant decrease in funding, the project has not been able to implement any significant plans for post-secondary involvement either for student counselling or placement services or the provision of regular teacher-training services. There has been limited involvement of one of the local universities with curriculum adaptation and teacher training for the Ohio State University materials, but this has not proceeded at a significant level.

Summary of Administrative Evaluation - The project in the year 1974-'75 has in all significant respects exceeded its program management goals despite a reduction in funding. It has successfully sought additional sources of funding, involved more substantially the teachers in the project schools, and expanded its activities to a variety of other schools. Both the third party evaluator and the visiting Office of Education team indicated a high level of satisfaction with all elements of the project and the latter recommended the project for refunding for its third year. Teacher training, post-secondary, and expansion of guidance services were all areas which suffered from a dimunition of project funds. These were the only areas which received any critical comment in the evaluation process with a full recognition that staff has been exercising their best efforts , and the problems that remain relate to dollar levels rather than project management for school or faculty involvement.

In 1975-76, the third and final Project Year teacher and counsellor training activities were increased to develop additional academically related curriculum and provide counsellors in non-project schools with familiarity with the Career Education testing and assessment resources. Again all goals set were met or exceeded. Grade by Grade sequence and Objectives were finalized and provided to the USOE Evaluation Team. Unfortunately the final Curriculum Guides K-12 were not finished until June. Of greatest significance was the introduction funding and acceptance of a plan for continuing the project on local funding with a phased introduction of its products into six additional elementary schools and two other high schools (one vocation and one academic).

At the end of the project problems of resource coordination and support for staff training at the central office level remain but part of the subsequent year planning includes more work in this area.

YEar II and III Testing Results

Grades 3 - 6 - Due in part to the administrative difficulties in establishing the evaluation contract and design, the second year of the project found considerable difficulty in getting cooperation in testing control groups of elementary school students nt involved with the project. Generally, therefore, the test results discussed hereafter have only last year's performance as opposed to national or local basis of comparison that is data supported to be measured against. As with last year's testing program certain inferences can and have been drawn. The 3rd, 4th, 5th and 6th grade populations of the parochial and public elementary schools were tested on a sampling basis with the addition of a limited sample of a newly participating parochial school in grades 3, 4 and 5. The test (probably better described as exercise) consisted of asking children to write as many different jobs as they could think of on a sheet with 30 blank spaces. In the two target schools in the second year of the project one hundred percent of the students filled in all 30 of the spaces with different jobs, and in 60 percent of the cases, they added additional jobs on the front and back of the sheet. Students in the initial target elementary schools averaged approximately 50 jobs described.

In the parochial elementary school participating for the first time in the program, the number of jobs written in by students averaged approximately 15 (50% less), and in all but a few cases did not exceed the 30 spaces provided.

An analysis of the actual jobs students selected in both years indicated that in the two target elementary schools the diversity was considerably greater at all grade levels than either the characteristic inner-city neighborhood occupational mix or even the occupational mix of the greater metropolitan area. There was a high frequency of distribution of jobs and job categories to which the students had been exposed through field trips relating to such things as dairy production, farming and agriculture, and various manufacturing occupations, as well as those occupations that students had been able to see at the Dobbins Area Vocational Technical School. Of equal significance was the diversity of relatively esoteric occupations that appear including such things as contractor, spelunker, broker, pattern maker, Latin teacher, publisher, geologist, archeologist, co-pilot, prospector, real estate broker, pen maker, cherry picker, beer distributor, atlas maker, diamond cutter, etc. It was interesting to note that most of the jobs produced were not "glamour" jobs, such as spaceman, astronaut, engineer, physician, etc., although the distribution of professional and managerial as well as high level technical jobs was high. It was further of interest to note that rural jobs appeared with fairly high frequencies.

Males tended to include a substantial number of sports oriented jobs while females showed a higher ratio of service and entertainment oriented jobs. Within the target schools that were two years into the program, students in grade 4 and above showed considerably more sophistication in using suffixes such as "maker, distributor, manufacturer," in making up their job categories showing greater understanding of the working world than was found in the children in the participating parochial school starting into the program. Both the distribution of jobs and the diversity indicated that the bulk of students were able to demonstrate a realistic career awareness of work opportunities at all levels from unskilled through professional.

A secondary analysis was done of the jobs listed by the students providing groupings by cluster and level and for each school and grade taking the test. These charts (provided in the Appendix) show a fairly realistic occupational mix that is significantly close to the current and projected categories of manpower employed and needed across the country. The only exceptions to this are a slightly higher than realistic concern with jobs at the professional and managerial levels that is found nationally and locally. Due to a lower number of responses from the school participating in the program for the first year significant differences in distribution were not apparent. There did seem to be a tendency towards an increased number of higher level professional and managerial listings primarily in the medical area, and a higher than average distribution in the unskilled area, although the level of significance is questionable.

As in the first year of the program, reactions were sought from both teachers and students concerning their visits to the field and to the Dobbins Regional Area Vocational Technical School. Student reactions were extremely favorable evidencing a first time understanding of the occupational training process, pleasure at being able to participate in hands on experiences; and a continuing strong interest on the part of many girls in traditionally male areas such as auto mechanics, welding, and printing. Some limited negative reactions were found from students who visited on a continuing basis throughout the entire school year which is what prompted the decision to limit the Dobbins visitation to one half year.

Teacher comments from all three elementary schools indicated a high level of interest in the Dobbins and field visits, as well as utilization of staff developed objectives based on the visits for subsequent classroom instruction.

Grades 7 and 8 - An occupational information inventory used in the 1973-'74 year was readministered to a random sampling of target schools 7th and 8th grade classes. This was a 24 true-false and multiple choice test asking information and knowledge regarding specific occupations. Average scores on these complex tests range from 74 to 79 percent, a few percentage points higher than last year. Although these were respectable averages by themselves, they were skewed somewhat downward by a limited number of items whose validity in terms of mode of statement were somewhat questionable. Their exclusion raises the total average to 86 percent. This year averages were slightly higher for the parochial school students giving a slight indication that the pervasive introduction of the program throughout the school improved these and other test results.

Ninth Grade - The same occupational information inventory test was also given to a random sample of the trade exploratory class of the Dobbins School. This group averaged 90 percent on the final examination and , with the excision of the 2 troublesome questions, the average goes up to 94 percent.

A middle school, J. Cooke, has been experimenting with career education programs in the City of Philadelphia for over six years. As they had requested, some of the instruments used in the CCEM K-14 project, they were in turn requested to provide the comparison of their ninth grade students performance on these tests with the trade exploratory students (typically from a lower socio-economic background and predominantly black as opposed to blue to white collar middle class predominantly white background). After almost six years participation in career education programs the J. Cooke students averaged 89 on the occupational information inventory. This very limited one time testing seems to indicate that the trade exploratory approach is successful in imparting a variety of career information that can compensate for previous school performance and background!

Attitudes - Self Awareness

Grades 6-8 - In addition to the career information tests, two short attitudinal questionnaires one containing nineteen "yes or no" items and three open ended questions plus a shorter 15-item yes or no questionnaire taken from the Lincoln County West Virginia project were administered to grades 5 through 8 of the target parochial and public elementary schools. On the Lincoln County test total averages for grades 5 through 8 of the parochial school, and grade 7 of the public school were 61 percent or three points lower than the average reported by Lincoln County grades 4 through 8. Within the two Philadelphia schools variances between classes were highly significant and seemed to relate to number of treatments (grades were significantly higher where more treatments were available), experience with the mobile laboratory, frequency of visitations scheduled, and number of years with present teacher (worst performance was by a class that had a new teacher unfamiliar with the school, children and program). Average score for two of the parochial school classes containing career education experienced teachers and receiving the greatest amount of program treatments averaged 10 points higher than the Lincoln County scores.

The attitude inventory taken from the project's own test battery was administered to two 6th grade and 7th grade classes. Questions covering student belief concerning the importance of work showed that on the average more than 93 percent of the students felt that work was extremely important. Two questions concerning the interest and attitudes towards different types of work indicated that 78 percent of the students felt that many jobs did not require a college education , and 74 percent of the students felt that jobs in which one worked with ones hands or became "soiled" were as important as jobs in which this was not true. Given the fairly typical bias of lower socio-economic groups to feel that these categories of jobs are demeaning, this indicates a fair level of sophistication in student attitudes toward careers.

Over 80 percent of the students wanted to continue study of careers, while in an opposite question only 22 percent said they wanted to return to a curriculum without career education in it. Almost in concert over 80 percent indicated that career education in the school transferred to talking to their parents about careers at home.

In a series of questions relating to factors that are important in career or job choice 96 percent of the students felt that money was important in choosing a job, but almost 70 percent went on to indicate that pleasure in the job was more important than the money (this proved out in a subsequent "check" item).

Over 96 percent of the students agreed that cooperation and "getting along" with co-workers was a critical factor to job satisfaction and success. This demonstrated considerable sophistication in an area of most employer's concern and greatest job failure.

Although attitudes were extremely favorable throughout the questionnaire, only one relatively negative aspect appeared in the overall attitude inventory. While over 86 percent of the students felt that they learned many things in school which they could later use on a job, only 59 percent of them felt that school subjects "seemed to fit in with careers". Overall averages in all categories were approximately 10 percent higher this year as compared to last year's classes on the same questionnaire.

The 19-item attitude questionnaire was followed by three open ended questions to the students concerning the difference between work and play, things that make them feel important, and things that they thought were important to their teachers. In all grades the words used to describe work were - "helping, responsibility, important, thinking or concentrating, pride and respect". Interestingly enough, play was not always seen as the antithesis of work despite the statement of the question. Students noted that "one should need an equal amount of each", the difference between work and play is "none! One should make work into play", etc. Both the definitions and the attitudes towards work and play displayed seem to indicate a relatively high level of maturity and a significant degree of awareness of work in relation to self and self satisfactions.

In concert with responses to the first question on work versus play, the question about things that were important to the student had the bulk of its answers concentrated around "careers, job, responsibility, success, money and fairly frequently, responses such as "having someone depend on me, doing something for someone". Answers in general related to achievement, learning, responsibility, and self satisfaction. Almost all the answers placed some emphasis on being of help, use or service to others. A second question of what their opinion was concerning their teachers' values and concerns for them related to their receiving a good education, having good work habits, and "doing things right". In all cases, these open ended questions were answered and seemed to demonstrate an amount of maturity and self awareness couched in their own terms that belied both grade level and economic background.

As noted in last year's report, there were additional comments by students indicating a greater understanding of occupational training, of other races, and a great satisfaction in sharing between schools.

Teacher and Parent Surveys

The project undertook to obtain parent opinion by use of a short, II question, parent opinion survey similar to the one used in Lincoln County West Virginia. Indicative of the problem of parent involvement in inner city schools is the fact that although 160 surveys were distributed with some followup by individual teachers, less than a 10 percent return was achieved. Of those questionnaires returned, 90 percent of the parents indicated that the child talked about career education at home, discussed the parents occupation with them and had an improved attitude towards school. An equal number believed that career education was worthwhile and should be continued. In over half of the responses parents indicated that children attempted to relate school activities to occupations in the community and to themselves and seemed to be more enthusiastic about school.

The teacher survey was distributed to a total of 65 teachers with only 31 opinion surveys being returned. Unfortunately, controls were inadequate, and it was not apparent from which of the six participating schools the questionnaires returned came nor of the level or degree of involvement of the teachers responding. Results in general were somewhat dissappointing. Although 94 percent of the teachers believe that helping students to appraise their abilities, interests and potentials is important to career education, and 87 percent believe that career education of this type should be made available to every student, the overall average on all questions was only 56 percent favorable, 15 percent were undecided on the 22 questions, and 29 percent answered no, overall to the questions. From the responses it appeared that most of the teachers responding were from schools involved only for the first year on a relatively limited basis, since questions relating to amount of time alloted to career education adequacy of field trips and hands on experiences equipment and supplies were the areas receiving the most negative responses. Teacher class summaries and critical incident summaries from the target schools showed a considerable enthusiasm, and thus both staff and the evaluator felt that teacher survey responses amounted to a request for greater involvement and treatments on the part of schools involved to a lesser degree under the first year funding from outside sources.

Grades 9-12 Career Decision Making, Individualized Materials and Job Preparation

In the placement area, project staff noted somewhat critical comments during the first year's review and within budget constraints concentrated placement activities on finding part time employment for ten through twelve cluster students in related work experience and work study opportunities. Out of a total population in excess of 200, 25 percent or 53 students were placed in part time employment opportunities which provided in most cases additional income as well as experience related to communications, metals and business clusters. As noted in last year's evaluation report, this project is testing the hypothesis that individualized instruction will show improvements in student learning over the current standard instruction, and that a broad cluster base of knowledge and skills will make a student more mobile and more easily placeable than the narrow intensive job training that is currently the standard of the Philadelphia area vocational technical schools. As also noted in last year's report, the only valid test of these hypothesis will have come from longitudinal life data on the performance of students over a 15 or 20 year period.

There are, however, within the program some much more modest measures of success of the instructional strategies adopted. In the metals and particularly the communications clusters which have been traditionally male occupations, the trade exploratory program has provided a significantly higher enrollment of women in the courses than ever before. Instructional staff on all three clusters have indicated what seems to be a general improvement in attitude of students and a more rapid progress and maintenance of interest by rotation from area to area and use of self instructional materials. In the communications and business clusters particularly, instructional staff report a more relaxed student who is more highly motivated. They attribute part of the success to the fact that the materials permit easy diagnosis of individual problems and fairly swift remediation of them.

In the clerical cluster particularly, which has been aimed at potential dropouts, it is significant to note that there have been no dropouts whatsoever from the program. Further, due to emphasis on placement more than 50 percent of the students are engaged in cooperative work programs, and with improved instruction plus outside income and relevant work experience, these have seemed to have a significant effect on the dropout rate.

In all cases the individualized instruction methods have achieved acceptance by all instructional staff within the clusters. Modification of materials by individual teachers to their own sequences or students' needs have been observed. Teacher comments indicate that the use of modular, self-instructional materials permits them not only to schedule slow and fast learners, but also different grade levels as well as visiting elementary school students into meaningful learning experiences without disrupting class operations.

The introduction of an exploratory year in the ninth grade which permits students to defer their final decision concerning career training to be received during the last three years of high school has also proven to be quite successful. Project staff has been successful in delaying the schedulling or "rostering" of students participating in the trade exploratory course until the end of their ninth grade year when they have completed all of their explorations. Data analysis from the first two years indicate that over 50 percent of the students ended by selecting a choice for their 10th and subsequent grades of training that was not one of their first three choices at the beginning of the year. In some 25 percent of the cases students' final selection was not even listed in their preliminary choices at the beginning of the year. Staff counselling efforts have resulted in placement of over 90 percent of the trade exploratory students with their first choice. Although difficult to prove, it appears to be a fair assumption that inability to get a student's first choice or dissatisfaction with the initial choice in the 9th grade may have been a significant contributor to previously high dropout rates. Thus far there have been no students from the 1973-'74 year TX group who have dropped out. The project expects to watch both dropout and grade performances of the two years of trade exploratory students in the program during the third year to measure the effects of the program on both grades and dropout rates.

Additional Data From Third Year Testing

The above Sections combined results of Testing in the last two years of the program. As noted previously the Teacher and Parent survey data is for the second year only. No statistically significant data concerning student progress was developed in the third year with all test and operational results varying only less than 1% in the objective tests and showing minor differences in the responses to questions relating to maturity.

The ACT Career Planning Program was implemented for the first time in the Third Project Year with 100 seniors in the Cluster program (two years in the project). Although not administered primarily to provide evaluation data it did indicate a higher than average correlation between shop's chosen and interest areas. Post Secondary plans for these students were more diversified between work and continuing to higher levels of education. Abilities related to clusters of occupations were rated "medium to high".

The main purpose of the tests was to begin building a system of career interest profiling for AVT students and a base for similar school-wide testing in the next program year. All counsellors and program coordinators were trained in its administration and interpretation.

Academic Staff Attitudes

A primary problem in the intervention of Career Education strategies at all levels has been the resistance and lack of diversified occupational knowledge of academic professionals. A major, but undocumentable, effect of CCEM has been the training, curriculum development and exposure of personnel in academic disciplines at all levels to Career Education. With motivated professionals the effects of Career Education on students has been the basis of a major change in attitude. One of the nuns in the parochial school wrote the following observation:

"Due to three hundred years of racial injustice, resulting in poverty, street violence and family instability, many of our children live in the narrow world of survival.

Survival takes time, leaving little time for broadening through education and sociability. Here the Career Education Program has caused a break, though small, in the above statement. Certainly a wide view of possibilities has been presented to children for future courses to take. Not only have they become aware of what is open to them, but they have participated on a limited scale in activities which could lead to successful future choices in careers.

But the most important value in Career Education for the children of Most Precious Blood is the aspect of sociability-on the deeper level of knowing who one is, what one is capable of being and doing, and because of this confidence being able to interact successively with others.

The fact that our boys and girls could step into another racial world to function normally and well has removed painlessly a burden which they would have had to face eventually in the world of high school or the world of work.

The removal of this burden was painless due to the dedicated, caring members of the Career Education team that our students met frequently.

This attitude spilled over to the Lowell children who interacted with students from MPB. Within a few sessions acquaintances were made, resources pooled, and cooperation of talents blended.

All the machinery and tools in the world could not cause the success of the program between the two schools. Only interest and committment of the persons involved could achieve the good that was accomplished this year".

TESTS/DATA

COMPREHENSIVE CAREER EDUCATION MODEL K-14

NAME ______________________________ GRADE __________

SCHOOL ____________________________ SEX __________

DIRECTIONS:

Part 1. Please indicate whether the statement is true or false, by circling the proper answer.

1. A CIVIL ENGINEER supervises the building of such things as bridges, roads, airports. TRUE FALSE
2. A KEYPUNCH OPERATOR manufactures keys for locks. TRUE FALSE
3. A PLUMBER would repair a leaky sink. TRUE FALSE
4. An AUTO BODY REPAIRMAN fixes dents on cars and trucks. TRUE FALSE
5. A BEAUTICIAN (Cosmetologist) catalogues, organizes and repairs books. TRUE FALSE
6. A DENTAL TECHNICIAN works in a laboratory TRUE FALSE
7. A PHOTOGRAPHER develops and sketches ideas for fashion designers. TRUE FALSE
8. A PLASTERER applies paint, varnish or stain to the wood trim and walls of a house. TRUE FALSE
9. A TYPIST is always a secretary. TRUE FALSE
10. A TELEPHONE OPERATOR repairs broken telephone lines. TRUE FALSE

Part 2. Choose the statement which best matches the occupational title. Indicate your answer by circling the appropriate letter.

11. HOSPITAL ORDERLY
    - a. Helps to take care of hospital patients.
    - b. Orders food and other supplies for hospital kitchens.
    - c. Works at hospital desk where patients check in.
    - d. Don't know.

12. MACHINIST
    - a. Makes adjustments on automobile, airplane and tractor engines.
    - b. Repairs electrical equipment.
    - c. Sets up and operates metal lathes, shapers, grinders, etc.
    - d. Don't know.

13. WELDER
    - a. Builds wooden crates to hold tanks of acetylene gas.
    - b. Uses a gas torch to cut or join pieces of metal together.
    - c. Operates a machine that stitches the soles to the upper parts of shoes.
    - d. Don't know.

14. DRAFTSMAN
    - a. Makes scale drawings of products or equipment for engineering or manufacturing purposes.
    - b. Mixes and serves drinks in a bar or tavern.
    - c. Pushes or pulls a cart in a factory or warehouse.
    - d. Don't know.

15. SOCIAL WORKER
    - a. Works for a welfare agency and helps people with various types of problems they may have.
    - b. Conducts research on life in primitive societies.
    - c. Writes newspaper stories on marriages, engagements, births and similar events.
    - d. Don't know

tion, by circling the matching letter.

16. Works in department stores, or small shops. Meets customers and tries to create an interest in the merchandise that is being offered for sale. The worker answers questions about the articles, may demonstrate its use, explains how it is cared for and helps customers make selections. Makes out sales or charge slips, receives cash payments, and gives change and receipts.
    a. Sales clerk
    b. Stock clerk
    c. Bank clerk

17. Cuts and sews clothing to fit people better. Repairs tears, holes, and zippers. Uses scissors, needles, thread, rulers, irons, sewing machines and pressing machines.
    a. Waiter
    b. Clerk
    c. Tailor

18. Skilled in the preparation of printed reports by various methods and preparation of this material for offset printing. Does things like prints, newspapers, cards, posters, etc. Is also called on to prepare layouts of copy for photography and enlarges and reduces materials to make negatives to produce paper and metal offset printing plates. Also prepares materials and makes photographic screens for silk screen printing.
    a. Author
    b. Printing and Composing Room worker
    c. Architectural draftsman

19. Takes care of all types of data processing equipment such as computers and other mechanical and electromechanical devices, installs and services such machines with hand tools and precision instruments. Assembles machines and may make repairs by taking the machines partly apart or may fix a machine by oiling, loosening, or settings gears or other connections.
    a. Computer programmer
    b. Computer maintenance technician
    c. T.V. Serviceman

20. Must know how to layout, build, test, trouble shoot electronic equipment used in the home (television sets) or industrial field. Works with circuits, amplifiers, tubes, transistors and other electronic parts. Can adjust, repair the circuits and components. May work in the television, telephone, spacecraft or any other field where electronic equipment is used.
    a. Commercial artist
    b. Dental technician
    c. Electronics technician

21. Keeps things peaceful by preventing crimes, enforcing the law, correcting people who break the law. They also make investigations and write reports.
    a. Sheet metal worker
    b. Bookkeeper
    c. Law enforcement worker

22. Removes spots from clothes, presses clothes and washes things like shirts and sheets. Places clothes in cleaning machines. Hangs and boxes cleaned clothes. Keeps all machines in working order.
    a. Tailor - men's or ladies' wear
    b. Dry cleaning plant operator
    c. Stock clerk

23. Receives money and gives change and receipts to custormers for payments made in exchange for goods and services. Keeps records of the amount of money involved so that cash accounts can be balanced at the end of the day. In supermarkets and other self-service stores, cashiers often wrap or bag each customer's purchases.
    a. Bookkeeper
    b. Stock clerk
    c. Cashier/checker

24. Works with flat sheets of metal. Shapes the metal, and then makes the metal into things like metal cabinets and signs.
    a. Machine shop worker
    b. Draftsman
    c. Sheet metal worker

COMPREHENSIVE CAREER EDUCATION MODEL K-14

DOBBINS VISITATION
OCCUPATIONAL INFORMATION QUESTIONARE

Percentage of students answering questions correctly.

QUESTION	LOWELL 7th	M.P.B. 8th
1	81%	71%
2	97	86
3	100	95
4	91	90
5	100	90
6	28	48
7	84	76
8	72	33
9	69	95
10	91	81
11	78	33
12	50	9
13	94	76
14	91	71
15	81	81
16	100	90
17	100	100
18	91	90
19	81	62
20	97	95
21	100	100
22	84	86
23	97	86
24	100	100

PERCENTAGES RESPONDING "YES"

OCCUPATIONAL INFORMATION INVENTORY

QUESTIONS	LOWELL GR. 7	M.P.B. GR. 7	M.P.B. GR. 8	COOKE GR. 9	DOBBINS GR. 9
1.	61	100	54	81	81
2.	68	100	96	100	90
3.	81	96	92	100	100
4.	77	96	96	93	100
5.	77	100	92	100	100
6.	32	35	46	63	48
7.	74	54	79	93	96
8.	87	42	58	93	81
9.	71	73	71	85	95
10.	84	85	71	93	81
11.	45	96	63	63	76
12.	26	19	21	41	52
13.	94	85	83	89	90
14.	68	50	83	93	95
15.	84	77	92	100	100
16.	77	100	96	100	100
17.	94	96	92	100	95
18.	77	85	67	89	90
19.	74	65	75	93	90
20.	83	88	83	81	100
21.	84	92	100	100	100
22.	81	81	83	93	100
23.	81	96	71	93	100
24.	81	92	92	96	100

CAREER EDUCATION SCALE--STUDENT

1 Have you talked or done anything in school that helped you find out more about yourself? YES NO

2 Have you talked or done anything in school that helped you find out more about workers? YES NO

3 Have you talked or done anything in school that helped you find out about the education or training that workers need? YES NO

4 Did your class walk to some place to see workers at their jobs in school or near school? YES NO

5 Did your class take a field trip in cars or on a school bus to see workers doing their jobs? YES NO

6 Have you gone on your own to see workers doing their jobs even when you weren't told to do so? YES NO

7 Did someone other than your teacher talk to your class about careers or jobs? YES NO

8 Did a worker show your class things that he uses in his work? YES NO

10 Did members of your class act like you were workers and do things that workers do? YES NO

11 Did members of your class make things in school that a real worker would make? YES NO

12 Did some members of your class talk about real work that they did with a worker? YES NO

13 Did some members of your class use math in a project like a real worker would use math? YES NO

14 Did members of your class use speaking and writing of correct English like a real worker would? YES NO

15 Did members of your class use science in a way that real workers would use science? YES NO

Devised by JOSEPH FREUND

PERCENTAGES RESPONDING "YES"

STUDENT SCALE

QUESTION	M.P.B. GR. 5	M.P.B. GR. 6	M.P.B. GR. 7	LOWELL. GR. 7	M.P.B. GR. 8
1.	89	75	85	65	70
2.	100	90	92	65	91
3.	93	90	92	61	91
4.	14	25	46	78	35
5.	89	25	54	78	48
6.	89	35	81	39	35
7.	86	85	88	39	83
8.	75	65	88	35	52
10.	71	50	85	48	52
11.	82	60	65	74	57
12.	36	40	73	30	43
13.	64	90	58	48	48
14.	64	40	65	43	43
15.	68	60	58	35	57

COMPREHENSIVE CAREER EDUCATION MODEL K-14
TEACHER OPINION SURVEY

Based upon test devised by LeVENE A. OLSON

This is not a test. There are no right or wrong answers. We are interested in your opinion about career education in your school. Information obtained during this survey will be reported on a group basis only. No information about individuals will be provided to Local, State, or Federal agencies. The information you provide will be kept strictly confidential.

Please respond to each statement by placing a circle abourn the answer which best indicates your opinion about each statement.

1. The purpose of Career Education were clear to me by the beginning of this school year. YES ? NO
2. The purposes of Career Education appeared to be clear to most of the students. YES ? NO
3. The major purposes set forth for Career Education were adequately met during the school year. YES ? NO
4. The time we had allotted was sufficient to accomplish the purposes set forth for Career Education. YES ? NO
5. Students gained first-hand knowledge of the world of work (field trips, resource people, etc.) YES ? NO
6. Students were exposed to adequate hands-on experiences. YES ? NO
7. Students explored their capabilities in various areas under a variety of situations pertaining to the world of work. YES ? NO
8. Students learned to self-appraise their emerging potentials YES ? NO
9. Equipment was adquate to accomplish the objectives of the Program. YES ? NO
10. Adequate materials and supplies were made available for the Program. YES ? NO
11. Career Education of this type should be made available to every student. YES ? NO
12. Students became aware of the factors that contributed to success in an occupation. YES ? NO

I feel that the Career Education has made most of my students:

13. More well-rounded YES ? NO

14. More motivated and interested YES ? NO

15. More skilled in planning their careers YES ? NO

16. More able to use their own initiative YES ? NO

17. More self confident YES ? NO

18. More able to see that knowledge is relevant to job success YES ? NO

19. More able to make vocational choices that are satisfying and productive for both themselves and the society of which they are a part. YES ? NO

20. Other teachers in this school have afavorable attitude toward Career Education. YES ? NO

21. Helping students to appraise their abilities, interests and potentials is an important part of Career Education. YES ? NO

22. Instruction in the Career Education is relevant to the needs of students at this level. YES ? NO

PERCENTAGES RESPONDING

TEACHER OPINION SURVEY

QUESTION	YES	%	NO	%	?	%
1.	22	71	8	26	1	3
2.	12	39	15	48	4	13
3.	10	32	13	42	8	26
4.	10	32	14	45	7	23
5.	15	48	13	42	3	10
6.	16	52	12	39	3	10
7.	18	58	9	29	4	13
8.	13	42	12	39	6	19
9.	12	39	13	42	6	19
10.	9	29	16	52	4	13
11.	27	87	1	3	3	10
12.	23	74	6	19	2	6
13.	17	55	8	26	6	19
14.	21	68	5	16	5	16
15.	15	48	10	32	6	19
16.	17	55	7	23	7	23
17.	15	48	9	29	7	23
18.	21	68	6	19	4	13
19.	18	58	8	26	5	16
20.	16	52	7	23	8	26
21.	29	94	1	3	1	3
22.	24	77	2	6	5	16

COMPREHENSIVE CAREER EDUCATION MODEL K-14

SCHOOL: ______________________________

GRADE: ______________________

"HOW I FEEL ABOUT WORK AND CAREERS"

Directions: Read each question carefully, than circle yes or no: (You will not be graded on this - there is no "right" or "wrong" answers -- just answer according to how you feel.)

yes no 1. I like studying about careers.
yes no 2. Every one's job is important.
yes no 3. When we go on a field trip, I try to watch people at work.
yes no 4. I would rather study as I did last year, instead of studying about careers.
yes no 5. My subjects in school seem to "fit in" with careers.
yes no 6. I am thinking more and more about the work I want to do when I grow up.
yes no 7. I know more things about peoples' jobs now than I did when school started.
yes no 8. I want to be prepared to get a good job.
yes no 10. Earning a good amount of money is important when you are choosing a job.
yes no 11. I would rather make a lot of money on a job than be happy on a job.
yes no 12. I would rather be happy with a job than make a lot of money on a job.
yes no 13. It is all right to change jobs if you want a different job.
yes no 14. In school, we learn many things which we will use later on a job.
yes no 15. People must learn to get along with each other and work well together in order to be good workers on the job.
yes no 16. I sometimes tell my parents about the careers we learn in school.
yes no 17. I want to study about careers next year.
yes no 18. There are many good jobs which you can have witho needing a college education.
yes no 19. A job in which your hands or clothes get soiled is as important as a job in which you stay clean.

1. In my opinion the difference between work and play is ____

____

2. Things that make me feel important are ____________________

____

3. Things that are important to my teacher are ______________

____

____

PERCENTAGES RESPONDING "YES"

STUDENT ATTITUDE

QUESTION	M.P.B. GR. 6	LOWELL GR. 6	M.P.B. GR. 7	LOWELL GR. 7
1.	95	90	89	70
2.	95	90	96	88
3.	58	76	59	58
4.	5	10	41	36
5.	53	48	78	58
6.	95	95	100	91
7.	79	90	78	82
8.	100	100	100	97
10.	95	100	96	94
11.	42	19	48	27
12.	37	71	70	67
13.	68	76	56	70
14.	68	90	96	82
15.	100	86	100	97
16.	74	86	100	70
17.	89	81	78	64
18.	68	71	56	55
19.	53	90	78	64

NAME: ______________________________ GRADE: ____________

SCHOOL: ______________________________ SEX: ________

DIRECTIONS: THERE ARE HUNDREDS OF DIFFERENT JOBS THAT PEOPLE DO. YOU ARE ASKED TO WRITE OR PRINT AS MANY KINDS OF JOBS THAT YOU CAN THINK OF. DO NOT HURRY AND DO NOT WORRY ABOUT SPELLING. TRY NOT TO REPEAT JOBS. IF YOU NEED MORE ROOM USE THE BACK OF THIS PAPER.

(SAMPLE: 1. Welder, 2. Cherry Picker, 3. Hotel Clerk, etc.)

RESPONSIVES by CLUSTER/LEVEL - PERCENTAGES

	I. Service	II Business Contact	III. Organization	IV. Technology	V. Outdoor	VI. Science	VII. General Cultural	VIII. Arts and Entertainment	
1. Professional and managerial independent responsibility	15		.3			.8		.3	16.7
2. Professional and managerial Medium level	12.7	.3	1.4	5.4	.3	.6	.6	1.7	22.7
3. Semi-professional and sm. business	4.5	.3	.6	.6					6.0
4. Skilled	8.8		3.1	9.9	7.4				29.2
5. Semi-skilled	9.1	.8	3.7	1.4	8.2				23.2
6. Unskilled	.3			.8	1.1				2.2
	50.4	1.4	9.1	18.1	17.	1.4	.6	2.	

M.P. E. - gr. 3

RESPONSIVES by CLUSTER/LEVEL - PERCENTAGES

	I. Service	II Business Contact	III. Organization	IV. Technology	V. Outdoor	VI. Science	VII. General Cultural	VIII. Arts and Entertainment	
1. Professional and managerial independent responsibility	3.0				4.5	1.5		1.5	10.
2. Professional and managerial Medium level	13.6							7.6	21.
3. Semi-professional and sm. business	1.5	1.5							3.
4. Skilled	28.8	3.0		4.5	1.5				37.
5. Semi-skilled	6.1	9.1			1.5				16.
6. Unskilled	4.5	3.0			3.0				10.
	57.5	16.6		4.5	10.5	1.5		9.1	

Lowell - gr. 3

RESPONSIVES by CLUSTER/LEVEL - PERCENTAGES

	I. Service	II Business Contact	III. Orgcni-zation	IV. Technol-ogy	V. Outdoor	VI. Science	VII. General Cultural	VIII. Arts and Entertainment	
1. Professional and managerial independent responsibility	4.3				5.7				10.
2. Professional and managerial Medium level	18.6							2.9	21.5
3. Semi-professional and sm. business									
4. Skilled	20.	1.4	1.4		4.3		1.4		28.5
5. Semi-skilled	7.1	4.3		2.9	2.9				17.2
6. Unskilled	4.3	5.7	5.7	1.4	5.7				22.8
	54.3	11.4	7.1	4.3	18.6		1.4	2.9	

St. Elizabeths - gr 3

RESPONSIVES by CLUSTER/LEVEL - PERCENTAGES

	I. Service	II Business Contact	III. Organization	IV. Technology	V. Outdoor	VI. Science	VII. General Cultural	VIII. Arts and Entertainment	
1. Professional and managerial independent responsibility	6.6	1.4		.7	2.2	1.4		2.9	15.
2. Professional and managerial Medium level	13.9	2.9					.7	4.3	21.
3. Semi-professional and sm. business	2.2	.7			1.4			.7	5.
4. Skilled	17.5	5.1	.7	16.	10.9	1.4	.7	.7	53.
5. Semi-skilled		2.9							2.
6. Unskilled		.7			.7				1.
	40.2	13.7	.7	16.7	15.2	2.8	1.4	8.6	

177

222

223

Lowell - gr. 4

RESPONSIVES by CLUSTER/LEVEL - PERCENTAGES

	I. Service	II Business Contact	III. Organization	IV. Technology	V. Outdoor	VI. Science	VII. General Cultural	VIII. Arts and Entertainment	
1. Professional and managerial independent responsibility	11.6						1.2		12.8
2. Professional and managerial Medium level	15.6		1.2			2.3	1.2		19.8
3. Semi-professional and sm. business		5.8							5.8
4. Skilled	11.6	7.		8.1	3.5				30.2
5. Semi-skilled	4.6	5.8	2.3		4.6				17.3
6. Unskilled	2.3	3.5			8.1				13.9
	45.2	22.1	3.5	8.1	16.2	2.3	2.4		

St. Elizabeth - gr. 4

RESPONSIVES by CLUSTER/LEVEL - PERCENTAGES

	I. Service	II Business Contact	III. Organization	IV. Technology	V. Outdoor	VI. Science	VII. General Cultural	VIII. Arts and Entertainment
1. Professional and managerial independent responsibility	16.6				1.			
2. Professional and managerial Medium level	11.4	1.				1.		1.
3. Semi-professional and sm. business	1.0	1.0						
4. Skilled	18.8	4.2	1.	3.1	2.1			
5. Semi-skilled	4.2	5.2	1.		7.3			
6. Unskilled	4.2	2.1	1.		12.5			
	56.2	13.5	2.	3.1	22.9	1.		1.

St. Elizabeth - gr. 5

RESPONSIVES by CLUSTER/LEVEL - PERCENTAGES

	I. Service	II Business Contact	III. Organization	IV. Technology	V. Outdoor	VI. Science	VII. General Cultural	VIII. Arts and Entertainment	
1. Professional and managerial independent responsibility	10.5		2.3		.6	1.1	1.1		15.6
2. Professional and managerial Medium level	11.6					.6		2.9	15.1
3. Semi-professional and sm. business	.6	1.7							2.3
4. Skilled	12.8	3.5	.6	8.7	11.6		.6		37.8
5. Semi-skilled	2.3	3.5	1.1	1.1	3.5				11.5
6. Unskilled	.6	5.2	1.7		9.9				17.4
	38.4	13.9	5.7	9.8	25.6	7.1	1.7	2.9	

M.P.B. gr. 6

RESPONSIVES by CLUSTER/LEVEL - PERCENTAGES

	I. Service	II Business Contact	III. Organization	IV. Technology	V. Outdoor	VI. Science	VII. General Cultural	VIII. Arts and Entertainment	
1. Professional and managerial independent responsibility	10.7		1.6		.8	.8	2.5		16.4
2. Professional and managerial Medium level	10.7					.8	1.6	3.3	16.4
3. Semi-professional and sm. business			.8						.8
4. Skilled	15.7	2.5		8.3	13.2				39.7
5. Semi-skilled	2.5	2.5	.8	.8	4.1				10.7
6. Unskilled	.8	4.9			9.1				14.8
	40.4	9.9	3.2	9.1	27.2	1.6	4.1	3.3	

Lowell - gr. 6

PARENT OPINION SURVEY

Devised by LeVENE A. OLSON

The school system is interested in how you feel about Career Education. There are no right or wrong answers to the following questions.

The answers that you provide to these questions will be kept strictly confidential. Your name will not be used when the information is reported.

Please respond to each question by placing a circle around the "yes" or "no."

1 My child talks about career education at home. YES NO

2 My child has discussed my occupation with me YES NO

3 My child shows more interest in discussing the occupations of neighbors, relatives and other people in the community. YES NO

4 My child's attitude toward school has improved. YES NO

5 My child is more enthusiastic about going to school YES NO

6 My child is more enthusiastic about the study of math, reading, science, etc. YES NO

7 Does your child relate school activities to activities and occupations in the community? YES NO

8 Does your child attempt to relate career education activities to his interests, abilities and desires? YES NO

9 Has career education been what you expected? YES NO

10 Is career education wothwhile? YES NO

11 Should career education be continued? YES NO

PERCENTAGES RESPONDING

PARENT OPINION SURVEY

QUESTION	YES	NO	?
1.	100		
2.	88	11	
3.	44	44	11
4.	88	11	
5.	88	11	
6.	66	22	
7.	55	33	11
8.	55	44	
9.	88	11	
10.	88		11
11.	88		11

ATTITUDES

ST.	SEVENTH		EIGHTH		
	MPB RESPONSIVE YES (%)	LOWELL RESPONSIVE YES (%)	MPB RESPONSIVE YES (%)	LOWELL RESPONSIVE YES (%)	QuesT.
	96	61	76	73	1
2	88	89	90	89	2
3	88	26	57	31	3
4	12	12	23	0	4
5	77	44	57	11	5
6	100	91	90	100	6
7	85	85	76	89	7
8	100	100	95	100	8
9					9
10	96	79	76	68	10
11	35	12	34	11	11
12	64	77	68	79	12
13	69	88	65	89	13
14	100	76	86	79	14
15	100	91	86	100	15
16	88	59	67	21	16
17	84	79	75	84	17
18	61	80	52	63	18
19	73	88	67	74	19

COMPREHENSIVE CAREER EDUCATION MODEL K-14

"HOW I FEEL ABOUT WORK AND CAREERS"

SELECTED STUDENT RESPONSES
LOWELL GRADE 7

1. In my opinion the difference between work and play is

WORK - - - PLAY

ACCOMPLISH SOMETHING USEFUL - - - IN PLAY YOU DON'T
DOING THINGS WHICH HELP ME - - - - - DOING THINGS THAT DON'T
WORK WITH TOOLS - - - - - - - - - - - PLAY WITH YOUR CHILD
TO DO WHAT YOU ARE TOLD - - - - - - DO ALMOST ANYTHING YOU WANT
FOR PEOPLE - - - - - - - - - - - - - - FOR YOURSELF
HARD - - - - - - - - - - - - - - - - - EASY
SERIOUS - - - - - - - - - - - - - - - - ENJOYABLE

YOU GET PAID WHEN YOU WORK
YOU CAN WORK & PLAY AT THE SAME TIME
WORK IS MORE IMPORTANT
PLAY CAN BE JUST AS HARD
TO PLAY YOU MUST WORK FIRST
YOU DO FOR A LIVING AND SUPPORT YOUR FAMILY
THERE CAN BE FUN IN WORK AND WORK IN PLAY

2. Things that make me feel important are

PASSING GRADES
LEARNING
RESPONSIBILITY
HELPING SOMEONE
DOING A GOOD JOB
IMPORTANT
BUILDING / MAKING THINGS
WHEN I DO THINGS BY MYSELF
WHEN I DO THINGS RIGHT
RECEIVING A TROPHY
MY BOY FRIEND & WHEN I SEE MY SISTER
MY BROTHERS
HELPING LITTLE CHILDREN
HELPING OLD PEOPLE
DOING IMPORTANT THINGS
SUCCESS IN ACHEVING SOMETHING
BEING WANTED
WHEN I KNOW I CAN DO IT
THAT I'M THE OLDEST IN MY FAMILY

3. Things that are important to my teacher are

TEACHING
BEING A GOOD STUDENT
MY BEHAVIOR
THAT WE ARE LEARNING SOMETHING NEEDED IN LIFE
IMPORTANT TO ME
DOING WHAT HE SAY'S
SCHOOL
ORDERLY NOTEBOOK
THAT I LEARN
GOOD DISCIPLINE
SAFETY
MONEY - TEACHING KIDS RIGHT NOT WRONG
SCIENCE LABS, TEST TUBES, CHEMICALS
UNDERSTANDING YOUR WORK FOR FUTURE

COMPREHENSIVE CAREER EDUCATION MODEL K-14

"HOW I FEEL ABOUT WORK AND CAREERS"

SELECTED STUDENT RESPONSES
M.P.B. GRADE 7

1. In my opinion the difference between work and play is

WORK	PLAY
GET MONEY- - -	
DOING SOMETHING TO GET AHEAD - - -	OCCUPYING TIME
JOB- - - - - - - - - - - - - - - - - - -	GAMES
HELP PEOPLE - - - - - - - - - - - - -	DON'T HELP PEOPLE
DOING SOMETHING FOR SOMEONE - - -	DOING WHAT YOU FEEL
GET TO LEARN & MAKE MONEY AT THE SAME TIME - - - - - - - - - -	DOING WHAT YOU FEEL
MORE IMPORTANT	
NO FUN - - - - - - - - - - - - - - - -	FUN
MAKE USE OF YOURSELF - - - - - - - -	TO DO FOR THE FUN OF IT

WORK IS NOT PLAY BECAUSE IF YOU PLAY AROUND YOU WILL LOSE YOUR JOB

WORK IS SOMETHING TO THINK ABOUT - PLAY IS SOMETHING YOU CAN DO AND FORGET ABOUT

2. Things that make me feel important are

GO TO COLLEGE
GETTING CREDIT FOR THINGS I DO GOOD
MEETING NEW PEOPLE
HELPING PEOPLE
ME
TO KNOW I'M MYSELF AND NOT A FAKE
STUDYING ABOUT YOUR CAREER
LEARNING MORE SO I CAN HAVE A JOB
MAKING FRIENDS
DOING GOOD AT LOWELL EACH WEEK
VERY GOOD FOR MY PRIDE
WORKING
KNOWING I AM ABLE TO LEARN ABOUT CAREER'S NOW
LEARNING ABOUT CAREERS
THE RESPECT I HAVE FOR OTHER PEOPLE
HELPING SICK PEOPLE

3. Things that are important to my teacher are

GENERALLY THE RESPONSES INDICATED THAT THE TEACHER IS CONCERNED ABOUT THINGS REGARDING THE EDUCATION AND FUTURE WELL BEING OF THE STUDENT.

COMPREHENSIVE CAREER EDUCATION MODEL k-14

"HOW I FEEL ABOUT WORK AND CAREERS"

SELECTED STUDENT RESPONSES
LOWELL GRADE 8

1. In my opinion the difference between work and play is

WORK	PLAY
DOING HOUSE CLEANING	WHEN YOU GO OUT
HARD	EASY
SOMETHING YOU HAVE TO DO	SOMETHING YOU WANT TO DO
YOU GET PAID MONEY	JUST FOR FUN
SCHOOL	PLAYING BALL
HARD AND IMPORTANT	EASY AND NOT IMPORTANT
MAKING A LIVING	HAVING FUN
SERIOUS	ENJOYABLE

REALLY NOT DIFFERENT BECAUSE IF YOU ENJOY WORK IT's LIKE PLAYING
IMPORTANCE
WORK COMES BEFORE PLAY
MONEY

2. Things that make me feel important are

LEARNING NEW THINGS
HAVING RESPONSIBILITY & CARING FOR CHILDREN
BABYSITTING
WHEN I CAN HELP SOMEONE AND THEY RESPOND TO ME
BEING LIKED & NEEDED
LIKING PEOPLE
DOING GOOD IN THINGS I GET PRAISED FOR
MY FAMILY

3. Things that are important to my teacher are

GOOD COOPERATION
US - LEARNING WHAT THEY TEACH
RESPECT, GOOD WORK
MAKING SURE SHE TEACHES RIGHT
HER JOB; CLASSES AND THE WAY THEY ACT
GOOD WORK
NOT IMPORTANT TO ME
I DON'T KNOW - ASK MY TEACHER
GOOD GRADES
GETTING ALONG WITH OTHERS
TEACHING STUDENTS

COMPREHENSIVE CAREER EDUCATION MODEL K-14

"HOW I FEEL ABOUT WORK AND CAREERS"

SELECTED STUDENT RESPONSES
M.P.B. GRADE 8

1. In my opinion the difference between work and play is

WORK	PLAY
DO SOMETHING TO MAKE YOURSELF BETTER	JUST FOOLING AROUND
TO SUPPORT YOUR FAMILY	JUST FOR YOUR SELF
LEARNING AND MAKING MONEY	LEARNING AND HAVING FUN
SERIOUS	FOOLING AROUND
TO DO WHAT YOU HAVE TO	TO DO WHAT YOU WANT

WORK = NO TIME FOR PLAY IF YOU WANT TO KEEP YOUR JOB
PLAY = DO ON YOUR SPARE TIME
DIFFERENT

IS LIKE THE DIFFERENCE BETWEEN NIGHT AND DAY
WORK IS A LOT HARDER THAN PLAYING
YOU GET PAID FOR WORK
YOU REALLY HAVE TO THINK ABOUT WHAT YOUR ARE DOING WHEN YOU WORK
THAT WHEN YOU WORK YOU HAVE A BETTER CHANCE THAN WHEN YOU PLAY
FIRST YOU WORK THEN YOU PLAY
WHEN YOU ARE NOT PLAYING YOU CAN GET A LOW OF WORK DONE, AND WHEN YOU ARE PLAYING, NOTHING GETS DONE.

2. Things that make me feel important are

MY EDUCATION, TALENT AND FRIENDS
WORK
BASKETBALL
WHEN I HELP PEOPLE, DOING THINGS THAT ARE RIGHT
RESPONSIBILITY IN HELPING OTHERS
BEING ABLE TO DO SOMETHING
WHEN PEOPLE CALL ON ME FOR HELP
WORKING FOR A LIVING
I DON'T KNOW
RESEARCH
WHEN I LIVE HEALTHY AND BE HEALTHY
WHIN I HAVING A GOOD TIME
WHEN I'M KNOWN FOR DOING SOMETHING GOOD
COMPLEMENTS

3. Things that are important to my teacher are

GENERALLY THE RESPONSES INDICATED THAT THE TEACHER IS CONCERNED ABOUT THINGS REGARDING THE EDUCATION AND FUTURE WELL BEING OF THE STUDENT.

COMPREHENSIVE CAREER EDUCATION MODEL K-14

QUESTIONNAIRE FOR CAREER EDUCATION
RESPONSES - M.P.B. grade 3

FREQUENCY	OCCUPATION
24	Busdriver
24	Gasman
23	Fireman
22	Dentist
21	Nurse
20	Baker
19	Pilot
16	Policeman
13	Librarian
12	Doctor Lawyer mailman
11	Teacher
10	Carpentar
9	Electrician
7	Plumber
6	Blacksmith Waiter
5	Auto Mechanic Barber Milkman Veterinarian
4	Musician Teller
3	Lineman Maid Routeman Spaceman
2	Artist Accountant Assembler Auditor Butcher Cab Driver Longshoreman Manager Meatman Night Watchman Reporter Truckdriver X-Ray Technician
1	Attorney Banker Babysitter Bookmaker Bookkeeper Cook Clerk Dietitian Dry-Cleaner Dancer Economist Farmer Football Player Gardner Hotel Clerk Hairdresser Operator Phone Worker Paperboy Salesman Silversmith Stewardess Surgeon Security Guard Surveyor Typesetter Trashman Welder Warehouseman Zoo Keeper

COMPREHENSIVE CAREER EDUCATION MODEL K-14

QUESTIONNAIRE FOR CAREER EDUCATION
RESPONSES - M.P.B. grade 3

OTHER RESPONSES

Army man
body repair
brick-layer
Bar-maid
Contractor
Contractor
Candle Stick Maker
Carve-man (carver)
Clown
Car Washer
Fruit Picker
Forest Work
Guard
"Ganger"
Housewife
Inspector
Laborer
Nun
Painter
Police Lady
Principal
President
Parent-aide
Programmer
Racecar Driver
Suit Maker
Skater
Shoe Maker
Shipping Clerk
Undertaker
Writer
Waterman

COMPREHENSIVE CAREER EDUCATION MODEL K-14

QUESTIONNAIRE FOR CAREER EDUCATION
RESPONSES - LOWELL grade 3

FREQUENCY	OCCUPATION
16	Teacher
13	Lumberjack
	Policeman
10	Bricklayer
9	Fireman
8	Doctor
6	Carpenter
	Wood Cutter
5	Nurse
	Painter
4	Baker
	Crossing Guard
	Printer
	Plumber
	Writer
	Wood Doctor
3	Cook
	Chef
	Gas Man
	Librarian
	Pilot
	Store Keeper
	Stewardess
2	Barber
	Baseball Player
	Mailman
	Miller
	Milkman
	Newspaper Boy
	Storeman
	Trashman
	Waitress
1	Actress
	Actor
	Artist
	Busdriver
	Clerk
	Car-man
	Cotten-picker
	Counter
	Draftsman
	Electrician
	Farmer
	Football Player
	Garbage-man
	Gardener
	Hairdresser
	Hostess
	Hockey Player
	Jewler
	Lawyer
	LaCross Player
	Minister
	Naturalist
	Navigator
	Newsman
	President
	Principal
	Secretary
	Singer
	Scout Leader
	Sailor
	Scientist
	Soccer Player
	Sales-clerk
	Typesetter
	Truck Driver
	Toolmaker
	T.V. Repairman
	Typist
	Window Cleaner

COMPREHENSIVE CAREER EDUCATION MODEL K-14

QUESTIONNAIRE FOR CAREER EDUCATION
RESPONSES - LOWELL grade 3

OTHER RESPONSES

- Astrologist
- Animal Trainer
- Ambulance Driver
- Astronaut
- Air Force
- Army Man
- Bartender
- Belly-dancer
- Boat Builder
- Box-maker
- Buttermaker
- Cobbler
- Clock-maker
- Cleaning Lady
- Car-washer
- Den Mother
- Director
- Fighter
- Go Go Dancer
- Grass Cutter
- Glass Maker
- Hunter
- Ice Cream Maker
- Insuranceman
- Key-puncher
- Key Maker
- Landlord
- Lion Trainer
- Life-guard
- Mathematician
- Model
- Mayor
- Maid
- Merchant
- "Man who makes money"
- Magician
- Phychiatrist
- Publisher
- Puppetteer
- Real-estate Man
- Roofer
- Railroad Maker
- Roller Derby
- Senator
- Spa Person
- Stevadore
- Street Cleaner
- Spaceman
- Scuba Diver
- Telephone Operator
- Ticket Lady
- Underwear Maker
- Undertaker
- Vice-Manager
- Weaver
- Zoo Keeper

(F≥1) SUMMARY OF RESPONSES BY CLUSTER/LEVEL (NUMBER) MPB-3

Levels	I. Service	II. Business Contact	III. Organization	IV. Technology	V. Outdoor	VI. Science	VII. General Cultural	VIII. Arts and Entertainment
1. Professional and managerial. Independent responsibility	53		1			3		1
2. Professional and managerial. Medium level	45	1	5	19	1	2	2	6
3. Semi-professional and small business	16	1	2	2				
4. Skilled	31		11	35	26			
5. Semi-skilled	32	3	13	5	29			
6. Unskilled	1			3	4			

(F≥1) LOWELL-3

Levels	I. Service	II. Business Contact	III. Organization	IV. Technology	V. Outdoor	VI. Science	VII. General Cultural	VIII. Arts and Entertainment
1. Professional and managerial. Independent responsibility	9					1	2	6
2. Professional and managerial. Medium level	24		1	3	1		5	4
3. Semi-professional and small business	13	3		2	4			
4. Skilled	22		2	34	16			
5. Semi-skilled	6	4	2	2	10		1	
6. Unskilled	1		1	1	13			

25

(F≥1)   SUMMARY OF RESPONSES BY CLUSTER/LEVEL   (PERCENTAGE)   MPB-3

Levels	I. Service	II. Business Contact	III. Organization	IV. Technology	V. Outdoor	VI. Science	VII. General Cultural	VIII. Arts and Entertainment	
1. Professional and managerial. Independent responsibility	15		.3			.8		.3	
2. Professional and managerial. Medium level	12.7	.3	1.4	5.4	.3	.6	.6	1.7	
3. Semi-professional and small business	4.5	.3	.6	.6					6.0
4. Skilled	8.8		3.1	9.9	7.4				
5. Semi-skilled	9.1	.8	3.7	1.4	8.2				
6. Unskilled	.3			.8	1.1				
									10

(F≥1)   LOWELL-3

Levels	I. Service	II. Business Contact	III. Organization	IV. Technology	V. Outdoor	VI. Science	VII. General Cultural	VIII. Arts and Entertainment
1. Professional and managerial. Independent responsibility	4.7					.5	1.0	3.1
2. Professional and managerial. Medium level	12.4		.5	1.6	.5		2.6	2.1
3. Semi-professional and small business	6.7	1.6		1.0	2.1			
4. Skilled	11.4		1.0	17.6	8.3			
5. Semi-skilled	3.1	2.1	1.0	1.0	5.2		.5	
6. Unskilled	.5		.5	.5	6.7			

(* Due to rounding)

VICS STATISTICAL REPORT
JULY 1, 1975

PHILADELPHIA SCHOOL DISTRICT
DIVISION OF INSTRUCTIONAL SYSTEMS

VICS TOP 50

[illegible]	# OF EXPLORATIONS	VICS NO.	OCCUPATION
1	498	1213	NURSE,REGISTERED
2	481	1102	LAWYER
3	417	3419	SECRETARY
4	390	1103	PHYSICIAN, M.D.
5	355	3206	COMPUTER PROGRAMMER
6	326	1308	POLICE OFFICER
7	316	1312	AIRLINE FLIGHT ATTENDANT
8	300	5211	PROFESSIONAL ATHLETE
9	285	3201	ACCOUNTANT
10	250	4407	AUTO MECHANIC
11	238	4106	ENGINEER, ELECTRICAL-ELECTRONICS
12	224	4213	AIRLINE PILOT
13	224	1604	NURSE'S AIDE
14	221	1108	VETERINARIAN
15	203	8203	ACTOR/ACTRESS
16	189	3414	MEDICAL ASSISTANT/MEDICAL SECRETARY
17	189	1109	PSYCHOLOGIST
18	187	4322	X-RAY TECHNICIAN
19	176	1226	ELEMENTARY SCHOOL TEACHER
20	171	4419	CARPENTER
21	170	7211	RADIO-TV ANNOUNCER
22	162	8314	PHOTOGRAPHER
23	162	8308	DISC JOCKEY
	160	1207	F.B.I. SPECIAL AGENT
[illegible]	159	8210	FASHION DESIGNER
26	155	1402	BEAUTICIAN/COSMETOLOGIST
27	152	8101	ARCHITECT
28	151	1413	PRACTICAL NURSE
29	148	6143	PEDIATRICIAN
30	148	3515	KEYPUNCH OPERATOR
31	148	1201	SOCIAL WORKER (CASEWORKER)
32	147	8208	COMMERCIAL ARTIST
33	144	3309	SHORTHAND (COURT) REPORTER
34	141	4312	ELECTRONICS TECHNICIAN
35	139	1216	PHYSICAL THERAPIST
36	137	8213	MUSICIAN
37	132	7219	JOURNALIST
38	130	8216	SINGER
39	130	1410	CHILD CARE WORKER
40	128	4212	ENGINEER, BIOMEDICAL
41	126	1230	TEACHER, SPECIAL EDUCATION
42	123	6223	MEDICAL LABORATORY TECHNICIAN
43	121	3422	LEGAL SECRETARY
44	118	8211	INTERIOR DECORATOR
45	117	8207	CARTOONIST
46	117	1228	TEACHER, PHYSICAL EDUCATION
47	115	3421	TYPIST
48	111	3204	CERTIFIED PUBLIC ACCOUNTANT (CPA)
[illegible]	108	7103	CRIMINOLOGIST
[illegible]	106	3427	EXECUTIVE SECRETARY

TOTAL NUMBER OF OCCUPATIONAL
EXPLORATIONS YEAR TO DATE:21488

AREA-LEVEL ANALYSIS

INTEREST AREA DISTRIBUTION

INTEREST AREA	# OF EXPLORATIONS	PERCENTAGE
1. SERVICE	6409	29.8%
2. BUSINESS-SALES	403	1.9%
3. WHITE COLLAR WORK	3849	17.9%
4. ENG., MECH., REPAIR AND CONSTRUCTION	3822	17.8%
5. OUTDOOR	1013	4.7%
6. SCIENCE	1924	9.0%
7. CULTURAL	1456	6.8%
8. ARTS & ENTER.	2620	12.2%

OCCUPATIONAL INVESTIGATIONS BY EDUCATIONAL LEVEL

	INTEREST AREA							
EDUCATIONAL LEVEL	1	2	3	4	5	6	7	8
1. GRADUATE DEGREE	1600	0	48	468	47	963	343	148
2. BACHELOR DEGREE	2286	137	1115	485	657	613	949	1318
3. POST HIGH (2YRS)	721	89	314	772	91	142	78	937
4. APPRENTICESHIP OR < 2YRS. POST HIGH	1166	53	1534	1499	95	198	81	218
5. ON-THE-JOB TRNG.	304	112	796	507	103	7	4	0
6. NO SPECIAL TRNG.	332	12	42	90	20	0	0	0

EXPLORATIONS BY TRACK

A TRACK 15203
I WANT SOME INFORMATION ABOUT A PARTICULAR OCCUPATION.

B TRACK 3380
I AM NOT SURE OF THE OCCUPATION I WANT TO INVESTIGATE, AND

C TRACK 2401
I WANT INFORMATION ABOUT TRAINING AND FINANCIAL AID
FOR A PARTICULAR OCCUPATION.

D TRACK 3189
I AM JOB READY, AND I NEED HELP IN FINDING EMPLOYMENT NOW.

USER REPORT

SCHOOL	TOTAL # OF STUDENTS USING VICS AT LEAST ONCE, YEAR TO DATE	MALE	FEMALE	CHANGE FROM LAST REPORT	
EDISON	328	312	16	0	
FRANKFORD	409	240	169	0	
FRANKLIN	249	236	13	0	
GRATZ	270	101	169	0	
OVERBROOK	736	256	480	0	
WEST PHILADELPHIA	340	142	198	0	
ROXBOROUGH	247	109	138	0	
EDISON PROJECT	68	57	11	0	
OLNEY	198	88	110	0	
LINCOLN	385	197	188	0	
BARTRAM	616	222	394	0	
CENTRAL	318	314	4	0	
GERMANTOWN	215	90	125	0	
GIRLS HIGH	207	44	163	0	
KENSINGTON	579	41	538	0	
KING	340	151	189	0	
NORTHEAST	442	291	151	0	
PENN	391	51	340	0	
SOUTH PHILADELPHIA	304	174	130	0	
WASHINGTON	1213	593	620	0	
UNIVERSITY CITY	295	142	153	0	
CAREER ACADEMY	101	47	54	0	
DOBBINS	382	171	211	0	*
MASTBAUM	152	81	71	0	
SAUL	93	56	37	0	
FRANKLIN LEARN. CTR.	104	56	48	0	
ICC	158	50	108	0	
LIBRARY	70	33	37	0	
RAS	78	54	24	0	
OCCC	303	167	136	0	
STRAWBERRY MANSION	58	30	28	0	
PARKWAY	130	52	78	0	
FSF	118	63	55	0	
MILLER CONTINUING ED	62	5	57	0	
LAMBERTON JR.	292	153	139	0	
TOTAL SINCE OCTOBER 1, 1974	10251	CHANGE SINCE 7/ 1/75		0	

EXPLORATION FREQUENCY DISTRIBUTION

SCHOOL	EXPLORATIONS YEAR TO DATE	PERCENTAGE
E SON	382	1.8%
FRANKFORD	1016	4.7%
FRANKLIN	315	1.5%
GRATZ	447	2.1%
OVERBROOK	1980	9.2%
WEST PHILADELPHIA	618	2.9%
ROXBOROUGH	591	2.8%
EDISON PROJECT	130	0.6%
OLNEY	481	2.2%
LINCOLN	785	3.7%
BARTRAM	1266	5.9%
CENTRAL	800	3.7%
GERMANTOWN	526	2.4%
GIRLS HIGH	362	1.7%
KENSINGTON	1331	6.2%
KING	589	2.7%
NORTHEAST	1074	5.0%
PENN	642	3.0%
SOUTH PHILADELPHIA	410	1.9%
WASHINGTON	2964	13.8%
UNIVERSITY CITY	580	2.7%
CAREER ACADEMY	220	1.0%
DOBBINS	602	2.8% ★
MASTBAUM	289	1.3%
SAUL	218	1.0%
F NKLIN LEARN. CTR.	298	1.4%
ICC	202	0.9%
LIBRARY	122	0.6%
RAS	151	0.7%
DCCC	749	3.5%
STRAWBERRY MANSION	97	0.5%
PARKWAY	304	1.4%
TSF	243	1.1%
MILLER CONTINUING ED.	125	0.6%
LAMBERTON JR.	581	2.7%

TOTAL # OF EXPLORATIONS
YEAR TO DATE 21488

QUESTION ANALYSIS

QUESTION	TIMES ASKED
1. WHAT ARE THE EDUCATIONAL REQUIREMENTS FOR THIS OCCUPATION?	10197
2. WHAT HIGH SCHOOL COURSES WILL HELP PREPARE ME FOR THIS OCCUPATION?	8237
3. WHAT INTERESTS SHOULD I HAVE TO BE SATISFIED IN THIS OCCUPATION?	6336
4. WHAT PERSONAL QUALITIES SHOULD I HAVE TO BE SATISFIED IN THIS OCCUPATION?	5843
5. WHAT PHYSICAL QUALITIES SHOULD I HAVE TO QUALIFY FOR THIS OCCUPATION?	5824
6. WHERE DO PEOPLE IN THIS OCCUPATION WORK?	5793
WHERE IN PHILADELPHIA CAN I BE EMPLOYED IN THIS OCCUPATION?	6739
8. WHAT IS THE CURRENT PHILADELPHIA PAY FOR THIS OCCUPATION?	10007
9. WHAT ARE THE BENEFITS, WORKING CONDITIONS, ADVANTAGES, AND DISADVANTAGES OF THIS OCCUPATION?	6972
10. WHAT CHANCES ARE THERE FOR ADVANCEMENT?	5606
11. WHAT IS THE FUTURE OUTLOOK OF THIS OCCUPATION?	7385
12. WHAT SCHOOLS IN THE PHILADELPHIA AREA WILL PREPARE ME TO ENTER THIS OCCUPATION, AND HOW MUCH DO THEY COST?	8252
13, WHAT SCHOLARSHIP AND FINANCIAL AID, IF ANY, IS AVAILABLE?	6699
14. WHERE CAN I GET INFORMATION ABOUT SCHOOLS OUTSIDE OF THE PHILADELPHIA AREA AS WELL AS OTHER INFORMATION ABOUT THIS OCCUPATION?	6414

	100304

QUESTIONNAIRE ANALYSIS

1. HOW SOON AFTER YOU ASKED WERE YOU ABLE TO USE THE 'VIC[illegible]' PROGRAM?

A.	SAME DAY	44.6%	1978
B.	ONE OR TWO DAYS LATER	23.1%	1023
C.	MORE THAN TWO DAYS	32.4%	1437

2. DID YOU LEARN ABOUT ANY OCCUPATIONS THAT YOU DID NOT KNOW EXISTED UNTIL TODAY?

A.	NO	49.2%	2182
B.	YES, ONE OR TWO	31.6%	1403
C.	YES, MORE THAN TWO	19.2%	853

3. WERE MY INSTRUCTIONS EASY TO FOLLOW?

A.	YES	93.7%	4160
B.	NO	6.3%	278

4. WAS THE OCCUPATIONAL INFORMATION TOO HARD FOR YOU TO READ?

A.	YES	15.6%	692
B.	NO	84.4%	3746

5 FROM WHICH OF THE FOLLOWING WOULD YOU PREFER TO GET OCCUPATIONAL INFORMATION?

A.	THE COMPUTER	79.9%	3547
B.	BOOKS AND OTHER READING MATERIALS	3.2%	141
C.	COUNSELORS	9.3%	411
D.	TEACHERS	1.9%	86
E.	OTHER SOURCES	5.7%	253

6. DO YOU THINK THAT THIS INFORMATION WILL HELP YOU IN PLANNING A CAREER FOR YOURSELF?

A.	YES	77.0%	3419
B.	NO	3.0%	133
C.	NOT SURE	20.0%	886

7. ARE YOU GOING TO DISCUSS YOUR FUTURE PLANS WITH YOUR COUNSELOR?

A.	NO	11.8%	524
B.	ONLY IF I AM ASKED ABOUT THEM	31.7%	1409
C.	CERTAINLY	56.4%	2505

8. ARE THERE ANY OCCUPATIONS THAT YOU WANTED TO LEARN ABOUT THAT WERE NOT ON THE COMPUTER?

A.	NO	79.4%	3522
B.	YES, ONE OR TWO	17.4%	771
C.	YES, THREE OR MORE	3.3%	145

TOTAL QUESTIONNAIRES = 4438

VII. CONCLUSIONS AND RECOMMENDATIONS

H.E.W. - U.S.O.E.

Performance Review-Conclusions and Recommendations

PERFORMANCE REVIEW
YEAR 1

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
REGION III
3535 MARKET STREET
PHILADELPHIA, PENNSYLVANIA 19101

March 15, 1974

OFFICE OF EDUCATION

MAILING ADDRESS
P.O. BOX 13716
PHILADELPHIA,
PENNSYLVANIA 19101

Mr. Stanley B. Cohen
Director, Skills Centers
John F. Kennedy Center
For Vocational Education
734 Schuylkill Avenue
Philadelphia, Pa. 19146

Reference: Career Education
Model K-14
Project #V361134

Dear Mr. Cohen:

You are aware of the recent visit by the Evaluation Team to observe the operations of the Career Education Project. Enclosed please find the official report including the team recommendations related to future program operations.

Consistent with the recommendations of the Review Team, I am pleased to inform you the project has been approved for second year funding. Contract negotiations will be completed before June 30, 1974.

On behalf of the Review Team I would like to take this opportunity to thank you and your entire staff for the sincere hospitality and cooperation afforded the team.

Very good wishes for a successful project operation during the second year.

Sincerely yours,

Robert A. Smallwood
Director, Occupational
and Adult Education

Enclosure

cc:
Dr. John Struck
Mr. John Maier
Dr. Sidney High

U. S. Office of Education
Evaluation Report
First Year Funding Report
Career Education Model K-14

Applicant Organization: School District of Philadelphia
Parkway at Twenty-first Street
Philadelphia, Pa. 19103

U.S.O.E. Grant No.: OEG-0-73-5283
Project No.: V361134

I. Introduction

A project progress analysis visit was made on January 30, 31, and February 1, 1974, to the exemplary project located in Philadelphia, Pennsylvania, funded July 1, 1973, under Part D, Section 142(c) of the Vocational Education Amendments of 1968. The purpose of the visit was to meet and confer with the Philadelphia School District administrators and project staff in regards to the project administration and management, determine the achievements of the project from July 1, 1973, through the date of the visit and to identify problem areas and make recommendations concerning the operation of the project for its second year.

a. Evaluation Team

Mr. James Warren, Program Officer, VTE, U.S.O.E., Region III, Philadelphia, Pa. 19101
Dr. Clarence Dittenhafer, Jr., State Department of Education, Harrisburg, Pa.
Mr. Primo Toccafondi, Career Coordinator, Newark, Delaware

b. Personnel Contacted

Mr. David Horowitz, Associate Superintendent of Services
Dr. William P. Kelley, Acting Executive Director of Career Education
Mr. Stanley Cohen, Project Director
Mr. Larry Chialastri, Coordinator Advisory Committee
Mr. Ross Frazier, Supervisor Career Development
Mr. John Maier, Project Coordinator
Mr. Douglas Mahoney, Career Specialist

Principals and Teachers:

Lowell Elementary: Mrs. Shirley Z. Sherman, Principal; Teachers: Mr William Brown, Mrs. Virginia Johnson, Mr. Ralph Pandolfi, Mr. Albert Swartz.

Most Precious Blood: Sister William Marion, Principal.

Dobbins AVT: Mr. Edward Magliocco, Principal; Teachers: Mr. Arthur Davis, Ms. Sandy Rosenfeld, Mrs. H. Lam, Mr. R. Krug, Mr. G. Solomon, Mr. A. Newsham

II. Objectives

1. To increase self-awareness of pupils by providing insight into their skills, potentials and abilities which would relate to the world of work.

2. To promote career awareness, including the professions, among program participants.

3. To provide opportunities for career exploration.

4. To provide skill development in the business, metal and communications clusters.

5. To provide job placement services and counseling for students upon leaving school.

While the attainment of all of these objectives is a long-range goal for every student in the school district, during the first year of this program objectives number 1 and 2 will be measured for elementary grade youth; objective number 3 will be the focus of the program at the 9th grade level. Objectives 4 and 5 are designed to meet the needs of students at the secondary level.

Two elementary (K-8) and one vocational technical school are directly involved in project activities. For reporting purposes grades K-6 will be considered elementary, 7-8 middle, and 9-12 secondary. All 600 students and 26 staff members at the James Russell Lowell School (K-8) participate in project activities. Approximately 100 students and four staff members at the Most Precious Blood Parochial Elementary School (K-8) are also participants. At Dobbins Area Vocational Technical School the program directly involves approximately 450 of the 2100 students enrolled. Over 50 staff members are involved in the grade 9 "TX", grade 10 "cluster", and the middle school exploratory programs.

III. Project Activities and General Status

a. Elementary School Activities

The review of (K-6) elementary school activities set forth in the proposal, as the Career Education Implementation System was made at the Most Precious Blood School (parochial) and the Lowell Elementary School. These schools are involved with career and self-awareness components. The components were observed to be developing through a variety of activities and approaches. The teachers were exposing the children to careers through in-class activities, group discussions, meetings with role models, "hands-on" activities and through integrating into career education concepts the regular teaching program. Teaching techniques were being used to aid children to develop decision making skills, set goals, seek alternatives and choose individual courses of action.

Students of both schools have taken trips into the local work community; places of business have been opened to the students; and parents and community people have served as speakers and even assisted with classroom activities. It was interesting to note grades and teachers are being voluntarily added in the first year when only grades seven and eight were to be involved.

b. Middle School Activities

Students and teachers in grades seven and eight at Lowell and Most Precious Blood Elementary Schools are participating in career exploration activities. The participation includes weekly visits to twenty-two shops at Dobbins AVT School to stress "hands-on" experiences and the integration of the career theme into the classrooms of the two middle schools. Grade seven students at the parochial school participate in career exploratory experiences with students at the Lowell School. Students from both middle schools attend Dobbins AVTS weekly for direct "hands-on" experiences in the various shops. The peer instructional efforts by high school shop students with the middle school students is commendable. Teachers have worked to some extent with the project staff in developing curriculum materials for classroom activities. Staff visits by project teachers to Dobbins AVT School are planned.

c. High School Activities

The Progress Assessment Team was impressed with the activities observed at Dobbins AVT School. The vocational school instructional staff seemed highly motivated, competent, and devoted to the task of teaching job skills to students. The assessment team was not afforded the opportunity to visit with academic support staff to ascertain their commitment to the career education program.

The utilization of the Dobbin's faculty for exploratory and job cluster activities associated with the career education project is commendable. Using upper grade level shop students as para-instructors is another notable aspect of the secondary component. The beneficial effects of these peer relationships is unestimatable.

The Singer-Graflex system is being used with every 9th grade student as an exploratory and evaluative experience to assist in ascertaining interest and aptitude in eleven specific trade areas.

The clerical skills laboratory provides an added dimension.to the secondary career education program at Dobbins. By providing office skill modules in attainable style for the clientele, the program makes a student's school exiting or advancement an individual matter. Further, the laboratory enables the students to experience a degree of success unattainable by them in the conventional business education program.

d. Post Secondary Articulation

The post secondary (grades 13 and 14) opportunities available to district students at Dobbins AVT School and other district skill centers is commendable. It was difficult for the Progress Assessment Team to determine the status of the post secondary articulation phase of the career education project beyond these vocational opportunities. The reports and verbal descriptions by the project staff seemed to center on the establishment of a job placement center. The team viewed the job placement center as a commendable component of the articulation problem, however the career education concept dictates a broader approach, e.g. community colleges, technical schools.

The assessment team realizes more pressing problems deserved the project staff's attention during the limited time frame of the project's existence. However, philosophic questions of articulation should be answered before implementation proceeds too far.

e. Guidance and Counseling

The guidance and counseling component of the Comprehensive Career Education Model K-14 is operating at all levels involving core staff, counselors and teachers. At the elementary (K-6) level the counselors assigned to each of the schools are working with project staff and are involved in the design of classroom activities and follow-up (group and individual) discussions.

Guidance and counseling at the middle level (7 and 8) has involved the staff interacting with classroom teachers in the design of appropriate techniques for follow-up of exploratory activities. The exploratory activities in the classrooms at the Lowell School and Dobbins AVT School have served as a basis for individual and group counseling.

The counseling and guidance component at the secondary level focuses on the 9th grade exploratory class. Emphasis is placed on personal interests, attainments, occupational goals, alternatives, development and refinement of decision-making skills through discussion with project core staff, 9th grade counselor, shop teachers and trade coordinators.

The students in the cluster programs meet regularly with the cluster chairman and core staff to discuss related occupational material and information, personal feelings and problems.

f. Inservice Training (Staff and Teachers)

1. Staff development sessions within each elementary school have been planned and are being conducted monthly. These sessions were initiated in September.

2. There is a continual interaction between project staff and participating teachers and principals for the purpose of dissemination of ideas and materials for evaluation and possible implementation.

3. Meetings were held with the vocational teachers in charge of the clusters program to develop procedures for implementation of the component at Dobbins AVT School.

4. Inter-school staff development sessions were held in October and November for participants and focused on program overview, career concepts, and grade level behavioral objectives.

5. Staff visits by grade 7 and 8 teachers in Lowell Elementary School and teachers at the Most Precious Blood School are being conducted at Dobbins AVT School to orient these teachers to the available career programs at the vocational school.

IV. Project Evaluation Activities

The Progress Assessment Team viewed the presence of the third party evaluator, Mr. Foltz, during the visitation as an indication of his interest in the project. His availability to answer questions relative to the project evaluation plan and related activities was appreciated.

The assessment team was not provided with an outline of the evaluation plan and therefore, can make only general statements about evaluation. Mr. Foltz relayed to us verbally that the evaluation effort is in the instrument selection process at the present time. Also, several onsite visits have been made with verbal and written feedbacks provided to the project personnel. Plans call for extensive testing during the spring of 1974.

V. Administration and Management of the Project

Top administrators of the school district are informed of the project and its operation. They are supportive and are expecting outcomes from the project which will prove to be innovative and adaptable for implementation in the many schools within the system. The administration is aware of the need to provide for public information, understanding, and involvement to assure successful operation of the project.

The Philadelphia Board of Education made its commitment to career education in 1966 and 1967. Since that time the recommendations of the 1966 Career Development Report have been in the process of being implemented. It is with this climate of acceptance provided by the administration that the project is operating successfully. In close consultation with the project director, the day to day operation and management of the project by the project coordinator was found to be efficient and effective.

VI. General Observations and Problem Areas

1. The principals of the participating schools have exercised strong leadership and set the example for staff participation in project activities.

2. Parochial school involvement and the integration of activities and students of the predominately black parochial school with those of a predominately white elementary school is significant. Similarly, the "peer instructional system" established between students of the predominately black high school and the students of the predominately white elementary school appears to have been most successful.

3. The use of the Dobbins shops for hands on and exploratory activities for middle school students is a significant accomplishment.

4. The cluster training approach for disadvantaged students so as to provide them with entry level skills is an excellent program component.

Problems or Areas of Concern

1. Inservice sessions and curriculum development workshops have been minimal.

2. Implementation of career cluster programs at Dobbins AVT appear to be limited to the shop clusters and do not include the phasing in of academic teachers.

3. Individualized packages for cluster students at Dobbins AVT are not yet generally available.

VII. Recommendations

1. Increased emphasis should be given to staff development and workshop activities to develop curriculum and evaluate existing curriculum components.

2. The team recommends that exploration activities be expanded to include experiences in the professions and vocations other than the ones offered at Dobbins AVT School.

3. Efforts should be made to disseminate and explain the Career Division's definition of career education to the school staffs involved in the Part D project.

4. Project staff is encouraged to closely monitor the projected calendar of events indicated in the proposal.

PERFORMANCE REVIEW
YEAR 2

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
REGION III
3535 MARKET STREET
PHILADELPHIA, PENNSYLVANIA 19101

March 26, 1975

OFFICE OF EDUCATION

MAILING ADDRESS
P.O. BOX 13716
PHILADELPHIA,
PENNSYLVANIA 19101

Mr. John Maier, Coordinator
Part D Exemplary Project
Murrell Dobbins AVT School
Room 103
22nd and Lehigh Streets
Philadelphia, Pennsylvania 19132

Dear Mr. Maier:

Speaking in behalf of the "Performance Review Team", I want to thank you, all members of the Career Education team and the school administration for the hospitality extended to the members of the review team and for the excellent cooperation you exhibited in accomplishing our assigned task.

The visit certainly gave us additional insight into the components of the project, exhibiting infusion of career education concepts and the team effort that is being made in accomplishing the many objectives.

Congratulations on a "Job Well Done."

Sincerely yours,

Earl J. Dodrill
Senior Program Officer, VTE

cc:
Mr. Stanley Cohen

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
REGION III
3535 MARKET STREET
PHILADELPHIA, PENNSYLVANIA 19101

March 31, 1975

OFFICE OF EDUCATION

MAILING ADDRESS
P.O. BOX 13716
PHILADELPHIA,
PENNSYLVANIA 19101

Mr. David A. Horowitz
Associate Superintendent for
School Services
Administration Building
21st and Parkway
Philadelphia, Pennsylvania 19103

Re: Performance Review Report - Part D Exemplary No. V361134, Grant No. OEG-0-73-5283, School District of Philadelphia, Philadelphia, Pennsylvania

Dear Mr. Horowitz:

A performance review was conducted March 11-13, 1975 on the above referenced exemplary project, funded under Part D, Section 142(c) of the Vocational Education Amendments of 1968. The review is required annually and the observations and recommendations serve as important considerations in the determination of funding consideration by the U.S. Office of Education.

You will find attached the official report including recommendations. The report represents the consensus comments of the review team. Please use them to the best advantage of the project.

On behalf of the evaluation team, I would like to thank you and your entire staff for the excellent cooperation and hospitality exhibited to the team throughout the review.

Best wishes for the successful operation of the project in the second year.

Sincerely yours,

Earl J. Dodrill

Earl J. Dodrill
Senior Program Officer, VTE

Enclosure

cc:
Mr. Albert I. Glassman
Mr. Stanley B. Cohen
Mr. John R. Maier
Dr. John Struck
Mrs. Joyce Cook
Mr. Robert Smallwood
Dr. Walker F. Agnew
Mr. Clarence Dittenhafer
Mrs. Jean Wilson
Mr. Robert Jervis
Mr. Sewell Griffith

U.S.O.E. PERFORMANCE REVIEW REPORT

School District of Philadelphia
U.S.O.E. Grant No. OEG-0-73-5283
Project Number V361134
July 1, 1974 - June 30, 1975

Title of Project: Comprehensive Career Education Model K-14
Date of Review: March 11 - 13, 1975

I. Introduction

The purposes of the performance review are to (1) assess project administrative and management accomplishments, (2) ascertain extent of achievement of goals and objectives for review period, (3) identify project strengths and weaknesses and make recommendations for improvement.

II. Overall Observations

A. The project has progressed satisfactorily for the period review. Several distinctive accomplishments, as listed below, serve to demonstrate progress achieved:

1. The objectives that were delineated for year II have been accomplished.
2. Summer staff development sessions were held with the career education team including teachers and principals of participating schools.
3. Weekly inter-school busing began in September, 1974 with an orientation for seventh grade from Lowell and Most Precious Blood Elementary Schools, to the Dobbins Area Vocational-Technical School.
4. The Career Education Director and staff were commended for having accomplished the recommendations made by the previous performance review team. (January 1974)
5. A student record of skill mastery, for each of the areas within each cluster, was developed by the project administration coordinator and staff for individual record keeping and grading.
6. All 9th grade exploratory students were interviewed by counselors, tested, and then scheduled, into the exploratory program. This process has assured a more realistic approach in the achievement of the project objectives.

7. It appears that excellent rapport exists between the Career Education Coordinator and staff, administration, principals and teachers in achieving the objectives of the project. Enthusiasm and dedication to purpose were attributes observed by team members.

8. Various activities have been instituted to strengthen the public relations program. Examples are: (1) development and dissemination of brochure, (2) news articles to parents, school administrators, teachers, and news media, (3) slide presentations were made to parent groups and school administrators.

9. There seems to be excellent community involvement of parents and businessmen in accomplishing activities planned by principals and teachers. Examples include: field trips, parent participation in class projects, and responses to parent and community concerns.

B. The reduction of the CCEM project's operating budget from $148,958 to $83,000 in February, 1974 was originally viewed as having a devastating effect. To continue to meet the project's objectives, other sources of funding were explored. A proposal for $20,470 was generated and subsequently approved by the Pennsylvania Department of Education, for positions to continue the Metals' and Graphic-communications Cluster at Dobbins AVTS. Through the intergration of another project, "The Consortium on Career Education", the career education staff provided this project with services. (Approximately $30,000 was obtained in materials and services for the second year.) A staff and curriculum development program for four (4) academic teachers at the Dobbins AVT School was funded for $818.00 through the Philadelphia District IV Office.

1. With monies obtained as outlined above, and surplus of $14,983 from the first year's budget, all the stated objectives for the second year were obtained.

2. The net effect was reduction of staff development, and the revision and reorganization of curriculum materials. Hopefully this will be accomplished in the final year of the project.

C. The Project Coordinator, Career Specialist, Administrative and Career Education Staff have played an important role in the accomplishment of the projects objectives. This was accomplished because of their industriousness, cooperative attitude, enthusiasm and dedication of purpose.

III. Recommendations

A. A conference was held with the administration relative to the creation of a Career Education Advisory Committee. A Philadelphia Vocational Education Advisory Council has been established and is currently operational.

Recommendation 1. That a Career Education Advisory Council be established for the purpose of expanding career education concepts into the Philadelphia School System.

B. It was observed that some schools did not have comprehensive career education resource centers.

Recommendation 1. That each school participating in the project establish a Comprehensive Resource Center. Additional career education instructional supplies and equipment should be procured, housed in the resource centers, and made available to all teachers and students.

III. Elementary School Activities

A. The evaluation team visited two elementary schools; Most Precious Blood Parochial School, (K-8) and Lowell Elementary School, (K-8). The stated objectives for these schools are in the conceptual area of self and career awareness. Classroom activities are aimed toward the achievement of these objectives. There is an emphasis on "hands-on" activities and out of school experiences. These activities are intended to accomplish the following long range objectives: (1) To increase self awareness of pupils by providing insight into their skills, potentials and abilities which relate to the world of work. (2) To promote career awareness, including the professions, among program participants.

B. The team observed activities at both schools which contribute to the achievement of the objectives. Classroom activities included such things as bulletin board displays, class discussions, and student projects "totem pole" emphasizing self and careers. There also was material in use developed through the Alliance for Career Education. The team observed a classroom session using the Cedar City Material in a role playing setting. There is an obvious tie-in of this material to the stated objectives of the project.

C. "Hands-on" activities were emphasized to a far greater degree at Lowell Elementary School where a career education team assists in these efforts. "Hands-on" activities were observed in the areas of industrial arts, and home economics. These activities were highly organized and well planned.

D. Out of classroom experiences, including field trips to business and industry, as well as structured visitation to Dobbins Area Vo-Tech School for seventh and eighth grade students from both Lowell and Most Precious Blood schools, are excellent examples of infusion of career education concepts into the curriculum. The relationships established between the elementary students and their "peer student guides" at Dobbins AVTS is a positive side effect of this activity. It should also be noted that the staffs of both schools enthusiastically supported the above activities.

E. Parental involvement was evident at Lowell Elementary where the program has contributed to the unification of school and community.

F. The team observed very little curriculum material that was available to classroom teachers in the schools. Much of the available material was developed within the schools. However, if infusion is to occur it must be a planned process based upon available resources both within and without the school.

Recommendation 1. Greater emphasis should be placed on production and incorporation of curriculum materials as a planned process to insure infusing career education concepts and activities into the regular curriculum structure.

IV. Secondary School Activities

The on-site "Performance Review Team" was impressed with the secondary component of the project at Dobbins AVT School. The following activities were of special significance:

A. The Trade Exploratory Program provides all Dobbins' ninth grade students the opportunity to explore at least eight skill areas. Students explore four areas before making a tentative career commitment. Final selection is limited only by time restraints imposed by the school systems requirements for course selection and scheduling. The success of the program is attested to by data collected by the project staff.

B. An added exploratory experience for ninth graders is provided through the Singer/Graflex system. All ninth graders are scheduled through the Singer System before career choices are made in the spring preceeding tenth grade.

C. The Singer exploratory room also contains a computer terminal for the Vocational Information Computer System. The VICS program provides students the opportunity to interact with the computer relative to occupational information. They can make occupational searches and/or receive specific data on approximately 500 occupations. The information includes job characteristics, local and national pay scales, current job market opportunities, etc. All ninth graders are scheduled through VICS. The VICS also provides potential college students the opportunity to do a computer assisted financial aid and scholarship search. The program assists students in locating possible grants, scholarships, loans, and other sources of financial aid.

D. A significant addition to the secondary component during the second year has been the staff's efforts to get academic support for teachers involved in the career education project. A supplemental grant provided the opportunity for formal involvement of these teachers in this endeavor. The teachers are from the following subject areas: mathematics, science, social studies, and English. These academic teachers will attempt to integrate career education concepts into the on-going curriculum.

E. The performance review team's discussions with staff and subsequent review of reports, indicates access of Dobbins students to placement service through a placement officer two days per week. The itinerant placement officer works with project staff and trade coordinators in placing students in part-time and full-time jobs.

F. The review team was not afforded the opportunity to visit the career resource center located in the Dobbins' library. The project staff indicated the materials in the center are limited to mostly written information. The VICS system, PENN script and other audio visual sources in various parts of Dobbins AVTS could be considered as extensions of the career resource enter.

G. The 9th grade exploratory program has demonstrated its effectiveness in helping students make informed career decisions.

Recommendation 1. The career decision should be postponed as long as possible during the 9th grade. This postponement would enable 9th grade students to explore additional clusters before they must make their decision on course selection.

Recommendation 2. The existing placement effort should be strengthened as project and/or other staff time and resources permit.

V. Post-Secondary Articulation

At this level, career development education should result in the individual's preparing for and satisfactorily entering a chosen occupation. The student desiring entrance into a high level technical, skilled or professional occupation would need access to a post-secondary curriculum. Students planning to enter some skilled or semi-skilled occupation would need access to shorter programs.

A. A minimal amount of post-secondary articulation exists in this phase of the project. Written documents and verbal interaction with individuals center around job placement-activities, specialized post high school programs in specific vocational areas presently in existance, and activities such as a "Career Conference." (Colleges, universities, industrial firms and other organizations are invited to familiarize students with career opportunities and training and admission requirements.)

B. The School District of Philadelphia is to be commended for its efforts in developing (VICS) Vocational Information through Computer Systems and (FASS) Financial Aid and Scholarship Search programs whereby Dobbins senior students utilize the terminal for immediate job placement information, post high school training, advanced educational guidance, financial aid and scholarship information.

Recommendation 1. Create an advisory group composed of both the career education staff and individuals from post-secondary institutions. Their function would be to help bridge the gap that exists between this project and post secondary programs. Their primary responsibilities would be to cooperatively assess job opportunities and provide for the establishment of courses at both the secondary and post-secondary institutions.

Recommendation 2. Continuous effort be made to better inform students of post-secondary course offerings.

Recommendation 3. Expand post-secondary program curr[illegible] to meet additional career preparation needs.

Recommendation 4. Encourage more students, teachers and counselors to utilize "VICS" and "FASS".

VI. Guidance and Counseling

Guidance and Counseling objectives are incorporated into the total project. The elementary level focus is small group counseling and discussion, while at the secondary level the focus is on the Trade Exploratory Program at Dobbins Area Vocational-Technical School. The specific objectives as stated are:

1. To provide small group counseling and discussion periods for all students. (Awareness stage)
2. To provide 80% of a counselor's time for the 9th grade class at Dobbins.

A. There is an attempt on the part of project personnel to involve the counselor teacher at the elementary school in project activities. There is some awareness of activities evolving from the programs.

B. The guidance and counseling component of the project focuses on the Trade Exploratory Program at Dobbins AVT School. Services are being provided to these students. This is indicated by interviewing students, testing, and making a reasonable effort to meet student requests of interest areas at Dobbins. All counselors ta the secondary school have been involved in staff development sessions.

Recommendation 1. That project personnel clearly define, with counselors, areas of activities that would contribute to project objectives and encourage counselor participation in these areas.

Recommendation 2. That an attempt be made to correlate the counseling objectives of this project with the objectives of the total guidance and counseling program so that counselors would be encouraged to participate more actively in the programs.

Recommendation 3. That priorities of the project be reconsidered to provide additional personnel to implement the counseling objectives, or provide this assistance through other funding sources, such as the intensified in-service training program to assure that all students are provided with competent career counseling.

Recommendation 4. Counselors serving in project schools should make the objectives of this project a priority.

VII. In-Service Training - Administrators and Teachers

The following observations are based on an examination of appropriate documents, reports and interaction among the career education staff, school administrators and teachers participating in the project.

A. Implementation of various activities demonstrate that effort has been made to provide for staff development such as:

1. An extensive one-week planning and preparation staff meeting held during the month of August, 1974 to give Year I participating principals and teachers an opportunity to share common concerns, discuss available resources; prepare an outline for the second year of operation; review and revise curriculum; become familiar with the process used for the ordering of materials; improve involvement of the counseling component, and to expand the project to include professional occupations.
2. An on-going bi-monthly inter-school and weekly intra-school staff meeting for cluster chairpersons and teachers of both Lowell and Most Precious Blood Elementary Schools.
3. An informal one-week summer staff planning and development program during the summer of 1974 to provide the trade exploratory counselor with an awareness of the program's operation.
4. A weekly staff and curriculum development session with the four academic teachers at Dobbins to infuse career education concepts into their regular classroom curriculum
5. A three day staff training session on January 23, 24, 25 involving teachers who are using Ohio State University developed cluster materials in Manufacturing, Recreation/Entertainment and Government.

B. It was also observed that the staff of Most Precious Blood and the Lowell School has continued their efforts to relate their involvement with the project to additional professional organizations and other principals, and teachers within the Philadelphia School District.

Recommendation 1. That continuous efforts be made to involve more academically oriented guidance counselors and to define his/her role as it relates to career counseling.

Recommendation 2. Explore the possibility of providing career education courses at the college or university level in order that teachers could receive credit.

Recommendation 3. That the Philadelphia School System arrange with local colleges or universities to give program participants credit for their participation in career education activities and staff development.

VIII. Administration

A conference was held with the Associate Superintendent for Special Services and members of his staff regarding their plans for continuation of Career Education in all schools at all educational levels, after the project is completed.

Recommendation 1. That a plan be developed to continue the infusion of career education at all educational levels after the project ends June 30, 1976. Additional objectives should be established and an assessment made of available staff and resources and determination of availability of funds to accomplish the expanded delineated objectives.

IX. Evaluation

The on-site review team was fortunate to have Mr. Charles Foltz, of Western Associates, available for consultation during our visit. Weston Associates was selected as the first year evaluator and maintains contact with the project without the guarantee of a formal contract.

A. The project's second year evaluation activity has two areas of emphasis: (1) administration and management and, (2) student outcomes. The first area involves assessing how effectively the various career education activities are being infused into the on-going curriculum of the project schools and also other schools. Information is being compiled and will be used to support interim (second year) and final evaluation reports from this project.

B. The student outcome data being collected in the project attempts to assess accomplishments in the area of self and career awareness, career exploration and preparation. The outcome data will be obtained primarily from testing with commercially and project developed instruments. Unfortunately the late issuing of the third party evaluation contract precluded the collection of pretest data. Thus, any pretest data comparisons cannot be made. For comparisons purposes, data on standardized tests might be compared against established norms. Further, second year test scores might provide pretest data for the third year evaluation of the project.

Recommendation 1. The third party evaluator and project staff seriously examine all the evaluative information presently being collected. The examination of the data should be done to determine the most important elements relative to measuring the effectiveness of the overall project. Perhaps some elements, especially in school testing, might be eliminated if the present procedures are too burdensome.

It is the unanimous consensus of the team that satisfactory progress is being made toward the achievement of the project objectives and evidenced by the findings that are delineated above, and therefore, recommend that the project be continued for the third year.

ATTACHMENT - A

Performance Review Participants

I. Performance Review Team

Mr. Earl J. Dodrill, Senior Program Officer, VTE
Region III, Philadelphia, Pa.
Dr. Clarence Dittenhafer, Research Associate, Pennsylvania
Department of Education, Harrisburg, Pa.
Ms. Jean Wilson, Chairperson, Department of Home Economics,
Cheyney State College, Cheyney, Pa.
Mr. Robert Jervis, Project Director, Exemplary Part D,
Annapolis, Maryland

II. Administrative Staff

Mr. David A. Horowitz, Associate Superintendent for School Services
Mr. Albert I. Glassman, Executive Director, Career Education
Mr. Stanley B. Cohen, Director, Career Education Planning and Development
Mr. Thomas C. Rosica, Executive Director, Federal Programs
Mr. Byron Brown, Assistant Director, Federal Programs
Mr. Ross Frazier, Supervisor, Career Education
Mr. Larry Chialastri, Supervisor, Career Education

III. Career Education Administrative Team

Mr. John R. Maier, Project Coordinator
Mr. Douglas S. Mahoney, Career Specialist
Mrs. Grace Leshner, Project Secretary

IV. Third-Party Evaluator

Mr. Charles I. Foltz, President, Weston Associates

V. Administrators and Staffs of Schools Visited

A. Dobbins Area Vocational-Technical School

Mr. Edward Magliocco, Principal
Mrs. Eleanor Gross, Counselor
Miss Sandra Rosenfeld, Counselor
Mr. Richard Krug, Chairperson, Graphic-communications Cluster
Mrs. Harriet Lam, Chairperson, Clerical Skills Laboratory
Mr. Albert Newsham, Chairperson, Metals Cluster
Mr. Gerald Solomon, Vocational Evaluation Center
Mr. Ronald Briggs, Job Placement Officer
Mr. Richard Gibson, Teacher, Social Studies

B. Most Precious Blood Parochial School

- Sister William Marion, Principal
- Mr. Rudy Brigam, Counseling Service
- Miss Denise Amon, Teacher, Grade 2
- Sister Genetta Gemmi, Teacher, Grade 3
- Miss Patricia Farrell, Teacher, Grade 5
- Miss Peggy Chapman, Teacher, Grade 6
- Sister Maureen Walsh, Teacher, Grade 7
- Sister Jane Bonner, Teacher, Grade 8

C. Lowell Elementary School

- Mrs. Shirley Z. Sherman, Principal
- Mr. William Brown, Career Education Team
- Mrs. Virginia Johnson, Career Education Team
- Mr. Ralph Pandolfi, Career Education Team
- Mr. Albert Swartz, Career Education Team
- Mrs. Ollie Carden, Teacher, Kindergarten
- Mrs. Emma Dotterer, Teacher, Grade 1
- Mrs. Helen Kessel, Teacher, Grade 6

D. Other

- Dr. Bruce Yasgur, Research Associate, School District of Philadelphia
- Mr. Frank Smith, Mobil Laboratory Instructor

PERFORMANCE REVIEW
YEAR 3

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
REGION III
3535 MARKET STREET
PHILADELPHIA, PENNSYLVANIA 19101

May 7, 1976

OFFICE OF EDUCATION

MAILING ADDRESS
P.O. BOX 13716
PHILADELPHIA,
PENNSYLVANIA 19101

Mr. David A. Horowitz
Associate Superintendent for
School Services
Administrative Building
21st and Parkway
Philadelphia, Pennsylvania 19103

Re: Performance Review Report - Part D Exemplary No. V361134
Grant No. OEG-0-73-5273, Philadelphia Public Schools,
Philadelphia, Pennsylvania

Dear Mr. Horowitz:

A performance review was conducted April 20-22, 1976 on the above referenced exemplary project, funded under Part D, Section 142(c) of the Vocational Education Amendments of 1968. The review is required annually and the observations and recommendations have served as important criteria in the determination of funding consideration by the U.S. Office of Education in relationship to this project and also to funding future projects.

You will find attached the official report including recommendations. The report represents the consensus comments of the review team. Please use them to the best advantage in advancing career education in Pennsylvania.

On behalf of the evaluation team, I would like to thank you and your entire staff for the excellent cooperation and hospitality extended to the team throughout the review.

Best wishes for the successful operation of the project during the concluding year of the project and to your future endeavors in career education.

Sincerely yours,

Earl J Dodrill

Earl J. Dodrill
Chairman, Performance Review Team
Senior Program Officer, VTE

cc:
Dr. Richard Adamsky
Mrs. Bessie Etheridge
Mr. Stanley Cohen
Mr. Albert Glassman
Mr. John Maire
Dr. Clarence Dittenhafer
Ms. Joyce Cook

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
REGION III
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OFFICE OF EDUCATION

MAILING ADDRESS:
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PENNSYLVANIA 19101

U.S.O.E. PERFORMANCE REVIEW REPORT

School District of Philadelphia
Philadelphia, Pennsylvania

U.S.O.E. Grant No. OEG-0-73-5283
Project No. V361134

Title of Project: Comprehensive Career Education Model K-14
Date of Review: April 20, 21, 22, 1976
Review Period: July 1, 1973 - April 22, 1976

I. Introduction

The purposes of the performance review are (1) to assess project administrative and management accomplishments, (2) ascertain extent of achievement of goals and objectives for review period, (3) identify project strengths and weaknesses and make recommendations for improvement.

II. Overall Observations

The project has progressed satisfactorily for the period reviewed. Several distinctive accomplishments, as listed below, serve to demonstrate progress in achieving the original objectives.

1. All ninth grade exploratory students were interviewed by counselors, tested, and then scheduled into the exploratory program. This personalized process has assured a more realistic approach in the achievement of the project objectives.
2. The career education staff and the administration are commended for having accomplished the recommendations made by the previous performance review teams.
3. The overall project objectives and additional goals have been accomplished in the designated time frame.
4. Bi-weekly small group sessions were held with the career education team including teachers, counselors and principals of participating schools.

5. Weekly inter-school visitation at the Dobbins Area Vocational-Technical School provided a career orientation for seventh grade students from Lowell and Most Precious Blood Elementary Schools.

6. It appears that there is excellent rapport between the Career Education project staff, administration, principals, teachers, and counselors. Enthusiasm and dedication to purpose were attributes observed by team members.

7. The audio-visual experience room at the Lowell Elementary School, which was constructed by students under the supervision of a career education team member and principal, has proven to be highly successful in motivating students. This facility is recommended for replication throughout the school system by the review team.

8. The cluster component program at the Dobbins Area Vocational-Technical School (AVTS) has successfully provided a diversified vocational education experience within the graphics, metals, and business clusters.

9. The career education staff and administration should be commended for utilizing the components of other projects to off-set a reduction in funding (year I) and have achieved additional goals, which have supplemented and complemented the original project intent.

III. Overall Recommendations

A. It was observed that some schools did not have comprehensive career education resource centers.

Recommendations

Recognizing that some progress has been made toward achieving the above objectives, it is recommended that continued efforts be made by the administration to provide facilities (centralized location), personnel, and career education materials to develop comprehensive resource centers in all schools that are participating in career education.

Recognizing that the administration is committed to continue the career education thrust at its current level of activity, it is recommended that there be increased funding to carry-out the goals of career education throughout the school system within an earlier time frame. Conferences with principals, teachers and students indicate that this must be given a high funding priority.

While the District is to be commended for the establishment of its Coordinating Council for Career Education it is recommended that the Council meet more frequently and develop an integrated district-wide plan and strategy (including divisional budgets) for meeting its career education goals.

IV. Administration

A. Mr. Stanley Cohen, Director of Career Education Planning and Development, met with the team to give a status report on the commitment to career education by the Board of Education and the administration after the project ends, June 30, 1976. Even though there is a deficit in school budget of approximately $110,000,000, the School Board and the administration have agreed to continue career education at the same level of activity. The administration has developed a programatic plan for the continuation of career education throughout the school districts as recommended by the Year II evaluation team. However, additional efforts should be made in the following areas.

Recommendation

A management plan should be developed to identify personnel, their job description, utilization of career education staff currently employed by this project, and additional staff needed to carry out city-wide career education objectives. Specific sources of funding should be identified and allocated to implement the programatic and management plans.

B. The financial status reports are due in the Regional U.S. Office of Education, as per the "Terms and Conditions" of the contract, which stipulates that the reports shall be completed and forwarded within 30 days after each quarter. It was observed that some reports were delinquent up to one and one-half years. (This has been corrected as of this date.)

Recommendation

That increased attention and emphasis be given to completing and forwarding all financial reports within the designated time frame.

C. An analysis of the in-service offerings of the School District of Philadelphia to their teachers, counselors and administration reveals no courses addressed to career education objectives.

Recommendations

Courses should be revised or added to assist the personnel of the district in implementing the career education concepts and practices.

The district should exercise its prerogative through adding to its credentialing requirements the provision of career education offerings in all pre-service training provided by institutions of higher education. Of critical importance are requirements relating to the certification of counselors who currently receive no pre-service training in career guidance.

V. Elementary School Activities

A. For purposes of clarification the elementary school in the project encompasses grades K-8 with students proceeding from elementary school to senior high school without benefit of the departmentalized structure of the middle/junior high school experience. The team visited the Most Precious Blood Parochial School and the Lowell Elementary School (public), observing the degree of accomplishment of the stated objectives - all in conceptual area.

1. To increase self-awareness of pupils by providing insight into their skills and abilities which related to the world of work.

2. To promote career awareness, including the professions among program participants.

B. There is no objective relating to the behavior of faculty including guidance personnel and/or parents and community. In both schools and especially at Lowell, a variety of career oriented activities are an integral part of the school program at all levels. These include field trips, the use of resource persons within the school, hands-on activities on site and elsewhere, infusion of career concepts into the established curriculum by adaptation of materials and the addition of the instructional materials at Most Precious Blood.

C. Intervisitation between the elementary schools involving limited exchange of students who participate in specific activities seems to be a significant outgrowth of the project though the numbers of students participating appear small. In time, this effort has the possibility of producing effective gains. The effects of the visits of students in grades 7 and 8 to Dobbins Area Vocational-Technical School seem to have immediate significance since the need for decision making as to high school selection is imminent and the need for information is served. Though "hands on" participation of elementary school students in shop activities is necessarily limited, there is evidence that in some instances, with the help of high school students, partial involvement is achieved and produces some positive results.

D. Though the career planning system and simulations materials were observed at Most Precious Blood School, few materials generated by the project were visible elsewhere. This does not negate the presence of teacher developed materials clearly in evidence.

E. The enthusiasm of school administration, faculty and students was evident in both schools inspite of limitation of funds, space, time and materials. This circumstance leads the team to conclude that commitment to career education is present at both sites and will continue after the project ends.

F. The team was informed of curriculum efforts past and in progress but none were in evidence, e.g. curriculum guides, tour guides, resource lists. It would seem that if the program is to expand, written guides must be available for the use of newcomers as a point of departure.

Recommendations

That an effort be made to draw together curriculum guides in a formal presentation that could be used by elementary schools throughout the district as a guide to implementation.

That a listing of recommended career oriented instructional materials be developed and reproduced for distribution to the school district.

VI. Secondary School Activities (9-12)

The performance review team visited the Dobbins AVT School. They considered the following activities as having special significance.

A. The Trade Exploratory Program provides all Dobbins' ninth grade students the opportunity to explore at least eight skill areas. Students explore seven areas before making a tentative career commitment. Implementation of the second year performance review team's recommendation to delay course selection is reflected by the deadline being moved from December 30 to April 30. The change in selection dates has enabled students to explore in three additional areas. Any alteration in scheduling dates in a school district the size of Philadelphia certainly necessitated high level administrative decisions. The fact that the decisions were made reflects on the quality of the project staff and the district's commitment to career education. The success of the program is demonstrated by data collected by the project staff.

B. The Singer/Graflex system provides additional exploratory experiences for ninth graders. All ninth grade students are scheduled through the Singer System before career choices are made in the spring proceeding advancement to the tenth grade.

C. The Singer exploratory room also contains a computer terminal for the Vocational Information Computer System. The Vocational Information Computer System program provides students the opportunity to interact with the computer relative to occupational information. They can make occupational searches and/or receive specific data on approximately 500 occupations. The information includes job characteristics, local and national pay scales, current job market opportunities, etc. All ninth graders are scheduled through the Vocational Information Computer System (VICS). The VICS also provides potential college students the opportunity to do a computer assisted financial aid and scholarship search. The program assists students in locating possible grants, scholarships, loans, and other sources of financial aid.

D. Two significant activities have occurred at the secondary level to increase the involvement of academic teachers with Philadelphia's career education. The first involves participation in the career education alliance with Ohio State University. The participation enabled the project staff to provide cooperatively developed instructional materials in academic classrooms. The materials consist primarily of simulations in eight cluster areas. Limited conversations with students and teachers indicated desirable results with the materials. A career planning system for students has also resulted from the alliance. The second significant activity resulting from the availability of the materials has enabled the project staff to infuse career education concepts into John Bartram Senior High School. This school had no involvement in Years I and II of the project.

E. The performance review team's discussions with staff and subsequent review of reports, indicates access of Dobbins students to a placement service through a placement officer two days per week. The itinerant placement officer works with project staff and trade coordinators in placing students in part-time and full-time jobs. Emphasis during the final year has been on the placement of the project's cluster students from Dobbins.

F. The review team was not afforded the opportunity to visit the career resource center located in the Dobbins' library. The project staff indicated the materials in the center are limited to mostly written information. The VICS system, PENN script and other audio visual sources in various parts of Dobbins AVTS could be considered as extensions of the career resource center.

G. The implementation of the cluster concept in the graphics, metals, and business areas at Dobbins has broadened the career opportunities of graduates.

H. The review team was afforded the opportunity to visit the A. Phillip Randolph Skill Center. The Center is the first operational one of six that are being planned. While the Center is not directly incorporated into the project, many of the present exemplary career education project activities are being adopted. These include:

1. The use of individualized instructional materials. (Sound on Slide)
2. Use of secondary students "as teachers" for visiting eighth and ninth grade exploratory students.
3. Implementation of clusters that were tried and validated at the Dobbins AVTS.
4. Use of AVTS as an exploratory focus.

Recommendations

The project staff has made gains with infusing career education into academic areas. However, the infusion came about as a result of external activities and was part of the project's diffusion efforts, e.g., the implementation of the Ohio State simulations. Efforts must be made to increase the number of academic teachers involved if the full benefits of career education are to be realized.

The utilization of Dobbins AVTS as an exploratory center should not preclude the use of non-school sites for such experiences. Some awareness of the above need is evidenced through the use of the Ohio State simulation materials (example, government unit). The latter requiring student's getting involved with community agencies.

VII. Advisory Council

A. The report of the review team in 1975 noted the absence of an advisory council as an integral part of the project operation and recommended the establishment of such a council.

B. In 1975 the Philadelphia Advisory Council for Career Education was reorganized establishing seven sub-committees to encompass all aspects of infusing career education throughout the school system. While one of the sub-committees addresses itself to the traditional concerns of vocational education the remaining six address the broader concern of implementing the total concept of career education. The sub-committees include labor, industry and the professions, higher education, technical institutes; government and business for purposes of universal coverage of existing concerns and resources.

C. The team commends the efforts of the school system to strengthen and expand the council, thus creating a body which has the capability of implementing an effective career education program city-wide. However, it is recommended that the sub-committee utilize the product of the project and the experiences of its staff as a resource in its deliberations and implementation processes.

VIII. Post-Secondary Articulation

A. The project staff and their written reports indicates that no articulation exists between career education (at the elementary and secondary level within the District's control) and post-secondary offerings available within the City of Philadelphia (outside the District's control). Within the district there is an operating advisory committee and sub-committees for career education. On each committee and sub-committee there are representatives of post-secondary institutions and business and industrial institutions. Although this project staff is aware of these committees and their overall objectives, they do not sit on the committees nor are they completely informed as to the accomplishments of the committees.

Recommendations

The project staff should be involved in the Advisory Committees currently functioning. In such involvement their lack of success in achieving articulation could be made known and a greater opportunity for articulation might be achieved.

The administrative staff of the Division of Career Education is to be commended for their efforts to effect articulation between the District's programs of career education and post-secondary institution's offerings advanced education for careers.

IX. In-Service Training - Administrators and Teachers

The performance review made observations, observed strengths and reviewed recommendations that could influence the quality of this effort.

A. Meetings were held bi-weekly with the staff of Most Precious Blood (MPB) and the Lowell Elementary Schools. In reviewing the materials presented to the team no description of the nature of the in-service education component is found. There is no evidence of any articulation between project staff and any credit granting institution. Staff stated that there has not been any formal attempt to involve a higher education institution in the in-service education of administrators and/or teachers. There is ample evidence that the project staff has interacted frequently with the teams functioning in each school and that the teams have interacted with the teachers in the schools. There is ample evidence that the staff and school teams are devoted to the career education concept and that the concept (as they perceive it) is being diffused to members of the school staff.

B. The members of the project staff and teams are to be commended **for** efforts to diffuse the concept of career education into the mainstream of education within the local schools in which they are involved.

Recommendations

The project staff, after three years of involvement in trying to diffuse the concept of career education should:

1. Design a structured in-service education program for both local administrators and teachers at both the elementary and secondary level that could be field tested for transferability to other sites.
2. Enter into an agreement with a local teacher education institution so that the knowledge, skills and attitudes needed by school personnel to implement career education could be integrated into the pre-service and in-service educational offerings at the University. In doing so, a reward system (collegiate credit) for receiving such preparation would attract educators and facilitate the diffusion and implementation of the career education concept.

The in-service education component of the district school system should place a greater emphasis on the skills needed by the professional staff to diffuse and implement the concept of career education.

X. Guidance and Counseling

Guidance and Counseling objectives are incorporated into the total project. The elementary level focus is small group counseling and discussion, while at the secondary level the focus is on the trade exploratory program and placement at Dobbins Area Vocational-Technical School.

A. Counselor teachers at the elementary school are involved in project activities.

B. The guidance and counseling component of the project focuses on the trade exploratory program at Dobbins AVTS. Services are being provided to these students. This was substantiated by interviewing students, observing test scores and meeting student requests of interest areas at Dobbins. All counselors at the AVT school have been involved in staff development sessions.

C. The availability of a placement officer with special responsibilities to project cluster students has enhanced the guidance and counseling component of the project.

D. As a follow up to the second year review team's recommendations, the following actions were taken.

1. The project staff has met with elementary counselors to define roles, explain philosophy, project goals and develop better communications channels.

2. In attempting to correlate the project's counseling component with the district's program, the project staff has met with the vocational guidance section of the pupil personnel and counseling division. The thrust of the meeting was to explore the possible integration of various other district funded and non-district funded guidance activities with the K-14 Comprehensive Career Education Program. These efforts are continuing.

3. Efforts to provide additional personnel in a district with a $110 million dollar deficit needs little elaboration. The assignment of personnel and responsibilities offers the only possible answer to the recommendations. The staff was able to redirect the responsibilities of the placement specialist to work with cluster students. Continued efforts will be made in this direction.

Recommendations

Within the recognized constraints of a deficit budget situation, the team recommends a greater effort be made to strengthen the project's guidance and counseling component. This might be in the form of a more definitive role for guidance in the project. If a more formalized role for guidance is defined for the project, personnel roles and responsibilities will follow.

Efforts should be continued to integrate the project's guidance efforts with the district's overall counseling program. This should include closer planning, coordination and implementation of the career education efforts.

XI. Evaluation (Third Party Evaluator)

A. It is observed that the objectives of this project do not lend themselves to measurement since they are in conceptual rather than behavioral form. The project staff indicated that, this being the case, an attempt was made to operationalize them. It would seem that the system used to achieve the stated objectives has not been formalized since each subsystem is still evolving.

B. In looking at the project evaluations of the past two years and the planning evaluation for this year, we note that an attempt at formative evaluation is being made. Data relating to the staff and its functions and the students is being collected. These data are being used in an effort to draw conclusions concerning the effort of this project to achieve the stated objectives.

C. The outside evaluator is recognized for his efforts in attempting to collect data from which conclusions might be drawn, an overwhelming task at this point in time.

Recommendations

In the future a study should be designed (formative evaluation) to determine the extent to which the program is operating as designed. Such a study would help crystallize the sub-system of the program and clarify the validity of the objectives once they are stated operationally. In so doing, each member of the staff would be better able to justify their efforts in effecting the stated goals.

Once the overall K-14 model (system) is found to operate as designed and that the stated objectives are being achieved, a summative evaluation should be performed so that the effects of this model could be compared to other models operating in similar inter-city settings.

It is the unanimous consensus of the team that satisfactory progress has been made during the three years of the project in achieving the objectives delineated in the project. This is substantiated by the activities and achievements that are found in this report.

ATTACHMENT A

Performance Review Participants

Performance Review Team

Mr. Earl J. Dodrill, Chairman, Performance Review Team & Senior Program Officer, VTE, Region III, DHEW, Philadelphia, Pennsylvania

Dr. Clarence Dittenhafer, Research Associate, Pennsylvania Department of Education, Harrisburg, Pennsylvania

Dr. Richard Adamsky, Assistant Professor, Temple University, Philadelphia, Pennsylvania

Mrs. Bessie Etheridge, Project Director, Exemplary Part D, Washington, DC

Administrative Staff

Mr. Albert I. Glassman, Executive Director, Career Education

Mr. Stanley B. Cohen, Director, Career Education Planning and Development

Mr. Ross Frazier, Assistant Director, Career Education Planning and Development

Career Education Administrative Team

Mr. John R. Maier, Project Coordinator

Mr. Douglas S. Mahoney, Career Specialist

Mrs. Grace Leshner, Project Secretary

Third-Party Evaluator

Mr. Charles I. Foltz, President, Weston Associates

Administrators and Staff of Schools Visited

Dobbins Area Vocational-Technical School

Mr. Edward Magliocco, Principal
Miss Sandra Rosenfeld, Counselor
Mrs. Ruth Leavitt, Chairperson, Clerical Skills Laboratory
Mr. Albert Newsham, Chairperson, Metals Cluster
Mr. Carlos Burke, Vocational Evaluation Center
Mr. Richard Krug, Chairperson, Graphic-Communications Cluster
Mr. Ronald Briggs, Job Placement Officer
Mrs. Jeannie Kushner, Coordinator, Business Education
Mrs. Diane Bakum, Teacher, English
Mr. Robert Smith, Teacher, Social Studies

A. Phillip Randolph Skills Center

Mr. Morris Reid, Principal
Mrs. Evelyn Rogers, Counselor

Most Precious Blood Parochial School

Sister William Marion, Principal
Mr. Rudy Brigam, Counseling Service
Miss Denise Amon, Teacher, Grade 2
Sister Genetta Gemmi, Teacher, Grade 3
Sister Alma M. Loretto, Teacher, Grade 7
Sister Jane Bonner, Teacher, Grade 8

Lowell Elementary School

Mrs. Shirely Z. Sherman, Principal
Mr. William Brown, Career Education Team
Mrs. Virginia Johnson, Career Education Team
Mr. Ralph Pandolfi, Career Education Team
Mr. Albert Swartz, Career Education Team

APPENDIX

CAREER EDUCATION I

K-12

A MODEL, RATIONALE
AND
OBJECTIVES
FOR
CAREER EDUCATION

Prepared by

Douglas S. Mahoney

June, 1976

Comprehensive Career Education Model K-14

Stanley B. Cohen, Project Director

John R. Maier, Project Coordinator

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CAREER EDUCATION OBJECTIVES K-12

INTRODUCTION

The following information has been developed to provide Administrators, Teachers, Counselors and all interested persons with a complete overview of career education. Eight elements have been identified for each grade level, and each element has a general goal and several objectives. Together these form the bases for implementing career education within all grade levels. Over a twelve year period these will provide each student with a foundation upon which they will be able to enter the world-of-work or continue their education with the skills necessary for a meaningful and successful life.

The main sections to this publication are:

* A historical sketch of career education and career guidance.

* A rationale adapted from the Comprehensive Career Education Model developed at the Ohio State University in 1972. This model provided the basis for the development of the objectives.

* Grade level objectives.

It is hoped that the reader will be provided with sufficient information to make comprehensive career education a reality.

NOTE: Any comments regarding this publication will be greatly appreciated and should be addressed to:
Comprehensive Career Education Model
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J. F. Kennedy Center - 7th Floor
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FORWORD

It has been my experience in working with teachers at all educational levels that the majority are willing to try new ideas if they perceive them to be of benefit to their students. Career Education is one of these "new ideas" that has been perceived as beneficial to students of all ages. Teachers and parents alike agree that children should become aware of self, careers, etcetera, but ask what this means in terms of grade level attainment, and the way career education should be implemented into the classroom. The most difficult task encountered in working with teachers is the successful transmitting of specific intent or focus on career education as it is related to the grade level functioning of the classroom. Terms such as "self and career awareness" have been clarified through the introduction of examples of classroom activites at each grade level, but are still open to many interpretations. It is anticipated that the following grade level behavioral description of the elements that make up Career Education will provide a framework from which teachers and curriculum developers can structure classroom content and activities. The use of behavioral objectives will also provide concerned educators with a definative foundation upon which student evaluation procedures can be developed.

Many factors provided the basis for the selection of objectives in Career Education I; these include:

1. Review of specific objectives and content from existing Career Education Curriculum.

2. Review of general discipline scope and sequence - Academic Industrial Arts, Vocational.

3. Stages of Vocational Development espacially by Super.

4. Developmental Program Goals - Center for Vocational and Technical Education - Ohio State University.

5. Teacher created career education activities from the participants in the Comprehensive Career Education Model K-14.

6. Input from the staff of the Division of Career Education Planning and Development:
   a) Mrs. Millicent Hartsfield
   b) Mr. John R. Maier

7. Personal Experience

8. References listed.

BACKGROUND

Historically, the needed to offer youth career guidance has been recognized for more than a century. Early efforts to meet the guidance needs of youth were mainly random and diffuse until 1901 when Parson's efforts lead to the organization of the National Vocational Guidance Association. From 1910 to the 1940's the vocational counseling and guidance focus followed closely the "trait factors" concepts of Parson which in essence meant matching the talents, aptitudes, and personalities of persons with jobs requiring like attributes.

In 1951 Ginzberg first succeeded in directing the attentions of the majority of those interested in vocational psychology to the possible contribution of a developmental approach. (Super in Whitley page 17). His work was quickly met by the emergence of several theories of Career Development, including one of his own. Hoppock reviews fifteen Career Development theories which now appear in the literature. The early theories of Caplow, Miller, and Form, that emphasize the economic and social factors in the national economy in relation to the accident of a person's birth, family, nationality and social class, are more descriptive than theoretical. (Hoppock pages 85, 91)

The theories of career development developed by Ginzberg, Havighurst, Holland, Hoppock, Maslow, and Super have much in common, with Super's being the most widely cited. All of their theories focus on the individual rather than on the milieu in which the individual lives and functions. (Hoppock and Super)

Career Development is conceptualized as one facet of overall human development, starting early in life and continuing until quite late in life. Super sees the selection of an occupation as the implementation of the self-concept; the self-concept is considered the principal determinant of how a career develops. Thus, what career a person chooses and does with it is in congruence with how he perceives himself and his capabilities.[16]

Whereas the base for career education was established in the theories of career development, the methodology of implemenation has changed. The classroom implementation of career education concepts have become the domain of all school personnel in contrast to the notion held a decade ago that the responsibility for career development was the domain of the counselor and/or teacher of occupations. Robert Hoppock[16] in 1963 refers to "counselors trained for the job" in contrast to Kenneth Hoyt[16] in 1972 who states "every teacher in every course will emphasize the contribution that subject matter can make to a successful career."

"Infusion" of career education concepts into the existing curriculum is the process by which every teacher of every course implements career education into their classrooms.

A huge amount of money has been expended over the past seven years in order to demonstrate career education in the classroom. The major thrust of these programs has been the development or modification of classroom activities in the existing curriculum. The effect has been strong activity oriented programs soundly based on career development theory, but constructed about goals and objectives which are open to many interpretations.

In reviewing the literature regarding career education programs and curriculum structure on a national basis, it is apparent that each school district has defined career education generally in terms of awareness (K-6), exploration (7-9), and preparation (10-12), but differently in terms of specific elements and goals. In many instances the structure of the career education curriculum has been designed in direct relationship to the scope and sequence of a specific discipline, (especially social studies)[6], and proceeded to demonstrate the interaction between the "career education" curriculum and other disciplines. Some districts have created curriculum which become a discipline within themselves, while some have specified at which grades various career education topics are to be introduced. Pertaining to sequence, school districts differ in that some have been sequential (K-1,2...)[7] in terms of grade level objectives and activities while others have "blocked" grade levels (K-3,4-6,...)[8] for the introduction of specific career education concepts. Another generality observed in career education curricula is the lack of specificity in the objectives. Even districts who refer to "behavioral objectives" or "performance objectives" use terms such as "to be aware," "to appreciate," etcetera, which are open to many interpretations, and do not lay a foundation for meaningful evaluation.

The Division of Career Development for the School District of Philadelphia has defined Career Education as "The restructuring of existing education to provide the student with the opportunity to gain knowledge and experience in career development concepts. It also provides students with the opportunities to apply these concepts in all areas of formal education" (1974). In order to develop curriculum components, Career Education objectives are needed to ascertain whether existing curriculum units can be used or modified, and to provide assurance that development of a career education is comprehensive.

In 1972, the Center for Vocational and Technical Education at Ohio State University developed the Comprehensive Career Education Model Matrix (Matrix) as one aspect of the Comprehensive Career Education Model (CCEM). This was designed to infuse career education concepts into all aspects of the school curriculum. The matrix was developed as an operational tool capable of providing a frame of reference for defining and evaluating curriculum and guidance units necessary for the delivery of career education. It stated eight elements of career education, generated themes for the elements, and stated grade level goals related to each theme. The overall goals of the matrix are directed towards the continuous development of each student. (Refer to Figure 2)

RATIONALE

Persuasive reasons have been advanced by Bruner (1960), Heath (1964), Phenix (1964), and Rosenbloom (1964) in support of building the curriculum on structural components derived from the disciplines. Those reasons include: Economy of learning is enhanced by the focus on fundamental ideas and the use of content to develop key ideas. Relationships among ideas are high-lighted as a sense of structure emerges through the use of concepts and generalizations in active inquiry. Fundamental ideas are brought to bear upon the solution of problems, and current problems are used to extend understanding of key ideas. Transfer of learning is facilitated as concepts and generalizations of broad applicability are stressed.

Bruner (1960) distinguishes between developmental stages which are primarily a function of physiological and psychological maturity and those which are primarily cognitive and experiential and may be a function of planned educational experiences. He maintains that readiness for learning is a function of the curriculum and not exclusively a function of the child's growth. This suggests that career education can be incorporated at any grade level in terms appropriate to the child's level of understanding and paced in accord with his attention and comprehension span. The elements, themes, and objectives of the Matrix make it possible to develop systematically a comprehensive career education program that begins in kindergarten and continues through senior high school.

The Matrix is based on the concept that career education is a developmental process which goes hand-in-hand with the growth and development of the individual. The eight elements are regarded as necessary and sufficient to constitute the definition of career education.

In developing a detailed conceptualization of career education, it was considered imperative to identify the developmental concepts that would provide for a clear understanding of the career education process. The following statements define the areas encompassing the whole of career education:

1. It is essential that each person know his interests, aptitudes, and attainments relative to a life role.
2. It is essential that each person perceive the relationship between education and life roles.
3. It is essential that each person acquire knowledge of the wide range of careers.
4. It is essential that each person be able to perceive processes in production, distribution, and consumption relative to his economic environment.
5. It is essential that each person be able to use information in determining alternatives and reaching decisions.
6. It is essential that each person acquire and develop skills which are viewed as the ways in which man extends his behavior.

7. It is essential that each person develop social and communication skills appropriate to career placement and adjustment.

8. It is essential that each person develop appropriate feelings toward self and others.

In turn, the key concepts provide the bases for the eight elements of career education. These are:

1. Self-Awareness
2. Educational Awareness
3. Career Awareness
4. Economic Awareness
5. Decision Making
6. Beginning Competency
7. Employability Skills
8. Attitudes and Appreciations

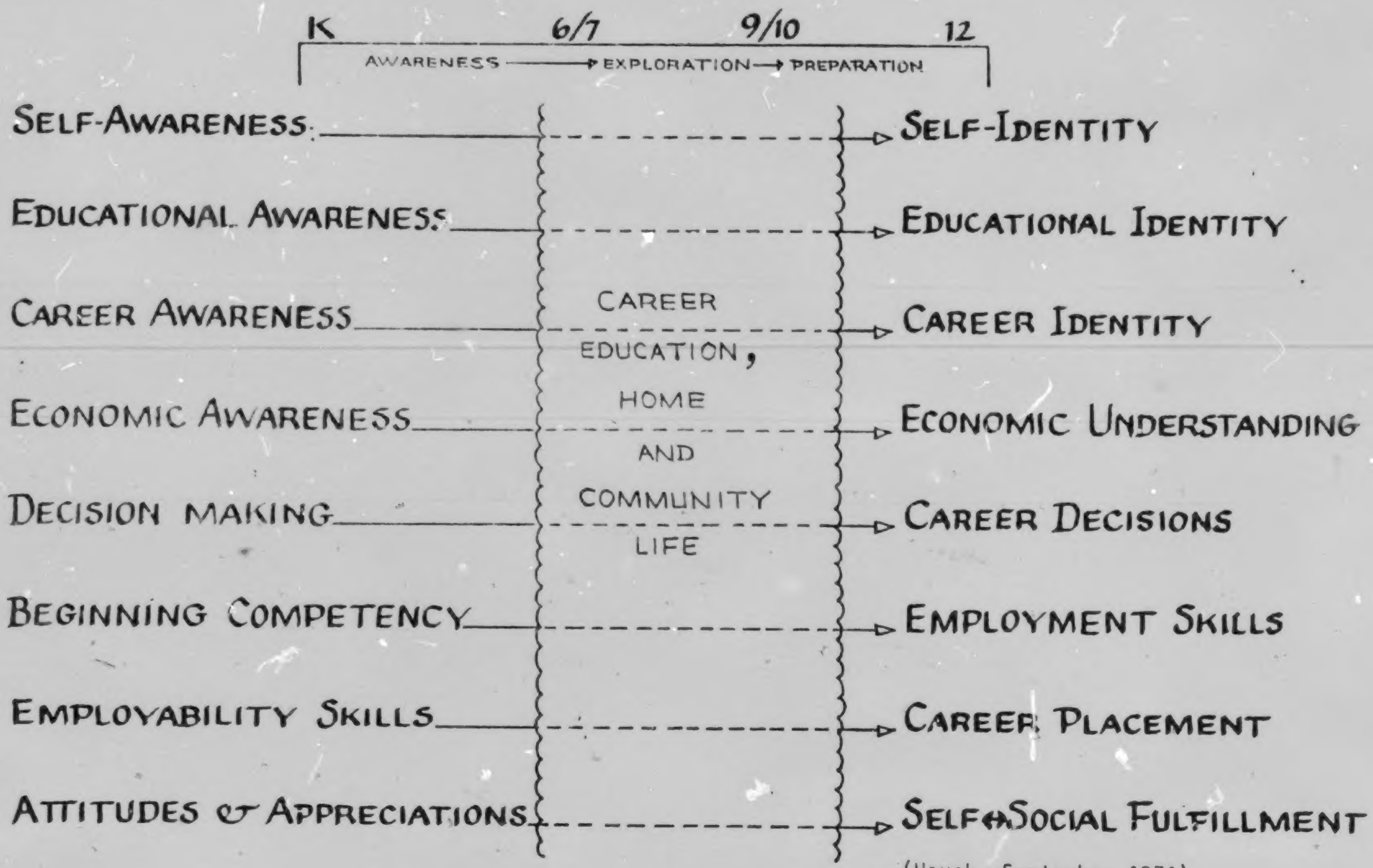
Each student progressing through a career education program related to the eight elements should be able to operate in society in a manner consistent with the element outcomes. The outcomes for each of the eight elements are:

1. Self-Identity
2. Educational Identity
3. Career Identity
4. Economic Understanding
5. Career Decisions
6. Employment Skills
7. Career Placement
8. Self-Social Fulfillment

The relationship between career elements and career outcomes, as well as their relationship to career education, is illustrated in Figure 1. Statements describing each element follow: (Hauck, September 1971)

Self-Awareness: The student entering school has some knowledge about himself, what kind of a person he is, and what he hopes to become. This can be titled self-awareness. Through career education and his home and community experiences, the student will become involved in a planned, sequential process of self-assessment and self-evaluation which results in self-identity. As he realizes who he is and what he is like, he will develop a reasonably consistent internalized value system.

ELEMENTS OF CAREER EDUCATION



K 6/7 9/10 12

AWARENESS → EXPLORATION → PREPARATION

Self-Awareness → Self-Identity

Educational Awareness → Educational Identity

Career Awareness → Career Identity

Economic Awareness → Economic Understanding

Decision Making → Career Decisions

Beginning Competency → Employment Skills

Employability Skills → Career Placement

Attitudes & Appreciations → Self ↔ Social Fulfillment

CAREER EDUCATION, HOME AND COMMUNITY LIFE

(Hauck, September 1971)

FIGURE 4

Educational Awareness: The entering students has some awareness of the relationship between education and training, whether formal or experience based, and the life roles assumed by himself and others. From this basic education awareness the student will continue to develop and refine a thorough understanding of the part education and training play in relation to the real world in which he will assume a more complete, productive participation. He will also come to recognize the need for specific education and training for specific career roles. Educational identity combines an understanding of the relationship among education and training and life roles, the knowledge of himself as a participant in education and training, his learning style, pace capabilities and capacities, and the ability to select and evaluate educational avenues for the development of his career plans.

Career Awareness: The individual entering school possesses some knowledge about, attitudes toward, and interest in some careers. He knows something about career performances, rewards, working conditions, and the education and training requirements possessed by some persons in some careers. That knowledge of careers can be referred to as career awareness. Through career education, home, and community life the student should be assisted in understanding the broad range of careers which are available as they serve him, the community, or society-at-large. He should also be assisted in learning what is involved in the development, growth, behavior, training, and rewards of persons engaged in specific occupations. From this broad understanding, or career awareness, the student should experience active career exploration and preparation which leads to career identity. Career identity is defined as the individual's selection of an appropriate role or roles within the world of work.

Economic Awareness: The child has observed and participated in the economic system in some extent prior to school entry. Building on this base of economic awareness, career education will facilitate the student's thorough exploration of the economic system as it relates to his development, the home, community, and society-at-large. Economic understandings are defined as those conceptual elements and networks which make it possible for the child or adult to understand the economic environment and solve personal economic problems.

Decision Making: The entering student has some understanding of the decision-making process and possesses some decision-making skills. If he is able to understand cause and effect relationships, he is ready to examine the decision-making process. Through education and life experiences, he will develop increasing skills and experience in the rational processes of making a decision and come to accept the responsibility for the outcomes of his decisions. The career decisions will progress from the very tentative and flexible career decisions to those which are increasingly irreversible or reversible only at some cost of time, effort or money. He should reach a decision which represents a careers direction-setting by grade ten, or early enough to provide for the development of entry-level skill in a career plan prior to school exit.

CAREER EDUCATION MATRIX

	K	1	2	3	4	5	6	7	8	9	10	11	12	
SELF-AWARENESS														SELF-IDENTITY
EDUCATIONAL AWARENESS														EDUCATIONAL IDENTITY
CAREER AWARENESS														CAREER IDENTITY
ECONOMIC AWARENESS														ECONOMIC UNDERSTANDING
DECISION MAKING														CAREER DECISIONS
BEGINNING COMPETENCY														EMPLOYMENT SKILLS
EMPLOYABILITY SKILLS														CAREER PLACEMENT
ATTITUDES AND APPRECIATIONS														SELF-SOCIAL FULFILLMENT

FIGURE 2

Beginning Competency: Beginning competency is related to the student's ability to make tool and process applications. The entering student already possesses some beginning competence in applying tool and process applications. Tool applications are defined very broadly to include "all of the ways in which man extends his behavior" (Bruner, 1960). Man extends his ideas over time and space by the use of written communication, the telephone, paintings, photography, and by building devices. He extends his senses by the use of microscopes and telescopes, his physical capability and capacity by the harnessing of energy and the using of tools. Career education provides increasing opportunities for the student to participate in tool and process applications in order to provide for skill developments.

Employability Skills: The element employability skills is concerned with locating and obtaining career placement both on an initial and an advanced basis. Employability skills also deal with developing group participation, other social-relation awarenesses and skills, and skills related to worker adjustment.

Attitudes and Appreciations: The element attitudes and appreciations was included as a means of focusing attention on the affective component of career education. Through career education and its supporting systems, the individual should develop an internalized value system which includes a valuing of his own responsibilities and the responsibilities assumed by others. These appreciations and positive attitudes toward his own role and the roles of others in society should lead to active and satisfying participation as a productive citizen and thus, provide for both self-fulfillment and social fulfillment. Self-social fulfillment is defined as the internalization of a value system which motivates the student toward becoming a self-actualized, self-fulfilling member of the world of work with appreciations for his own role and the roles of others.

+ Adapted from Developmental Program Goals - The Center for Vocational and Technical Education - Ohio State University - August, 1972.

SELF-AWARENESS

KINDERGARTEN

The student becomes aware of his interest in certain toys and play activities. He recognizes family roles and the influence of other people. He becomes aware of his body-space relationships and cultural differences.

1 - The student will state his preference for certain toys.

2 - The student will identify the tasks he performs best.

3 - The student will state two tasks performed at home by each family member.

4 - The student will state at least one way that he is unique.

5 - The student will state two ways in which he is similar to a playmate.

6 - The student will identify three groups to which he belongs.

7 - The student will state differences in his behavior within each of the three groups that he belongs to.

8 - The student will state something he "really likes" about a playmate.

9 - The student will identify the major part of his body.

10 - The student will identify one thing that makes him feel happy, (sad).

11 - The student will identify three of his basic needs.

SELF-AWARENESS

GRADE ONE

The student becomes aware of his interest in certain games and his physical abilities to perform tasks. He shows an increased awareness of himself and his relationships to others. He recognizes his role, and his rights and responsibilities, at home and school.

1 - The student will state his preference for certain games.

2 - The student will identify the tasks he is physically able to perform.

3 - The student will identify the roles played by members of family.

4 - The student will identify at least three people he contacts each day.

5 - The student will describe one way he is different from last year.

6 - The student will describe one difference in his behavior when he is alone as compared to when he is in a group.

7 - The student will state at least two ways in which his behavior is different in school as compared to home.

8 - The student will state at least two ways in which his behavior is similar in school and at home.

9 - The student will identify two characteristics which make him unique.

10 - The student will identify one thing that makes him angry.

11 - The student will identify two people he like to be with.

12 - The student will state two tasks performed by his teacher.

SELF-AWARENESS

GRADE TWO

The student becomes aware of his interest in selected activities and increased ability to perform tasks. He is aware of the importance of his achievements in the classroom. He enacts roles played by himself, family members, and his teacher. He recognizes that there are certain requirements for his membership in a group.

1 - The student will identify at least two activities he is interested in.

2 - The student will identify one task of activity at which he has become more proficient.

3 - The student will identify three tasks which he feels he can do best.

4 - The student will describe roles played by members of his family, including himself.

5 - The student will describe his role in school.

6 - The student will describe his role within a group.

7 - The student will identify two of his behaviors which help him and others to work together at home and in school.

8 - The student will identify one way in which he contributed to the completion of a group task.

9 - The student will state two behaviors he feels are good at school.

10 - The student will identify one thing or person that is important to him.

SELF-AWARENESS

GRADE THREE

The student becomes aware of his interest in tools and his abilities to perform specific tasks. He becomes aware of his body's physical capabilities and spatial relationships. He recognizes that people with similar roles may behave similarly. He recognizes the importance of his achievements. He recognizes cultural differences and the uniqueness of himself and others.

1 - Given a list of tools used in school, the student will state one tool he uses best.

2 - The student will identify three ways in which all students play their roles in school.

3 - The student will identify his neighbors that he likes.

4 - The student will state which neighbors perform tasks similar to his family members.

5 - The student will identify which of his behaviors do not change from day to day.

6 - The student will identify a tool he uses well at home.

7 - The student will describe his physical environment.

8 - The student will state three tasks he is able to do relative to his physical capabilities.

9 - The student will identify three achievements he is proud of.

10 - The student will state the relationship existing among his parents, grand-parents and himself.

SELF-AWARENESS

GRADE FOUR

The student understands the importance of his achievements as related to learning tasks. He identifies his interests in major types of roles played by individuals and becomes aware of how the roles complement each other. He recognizes that his behavior can be influenced by group membership and identifies some of his unique personal characteristics and values. He becomes aware of the relationship between his health and his physical development.

1 - The student will indentify five things that interest him.

2.- The student will state three tasks he is able to do well.

3 - Having stated three tasks he is able to do well, the student will explain the similarities between the tasks and his interests.

4 - Given a task, the student will state why he likes, or dislikes doing it.

5 - The student will identify three major types of roles assumed by people in a group.

6 - The student will identify his role within a state group.

7 - In a play group, the student will describe his behavior relative to the behavior others exhibit towards him.

8 - The student will describe how he and others have helped in the completion of various tasks.

9 - The student will identify two expectations each of the following have of him: parents, teachers, and peers.

10 - Having stated the two preceived expectations of his parents, teachers and peers, the student will identify two behaviors he has to demonstrate to meet these expectations.

11 - Using himself as a starting point, the student will identify the immediate members of four generations of his family.

12 - The student will state how his physical development is a function of proper health habits.

SELF-AWARENESS

GRADE FIVE

The student recognizes that his interests and aptitudes influence him. He becomes sensative to other people. He demonstrates ability to focus his interests from immediate to longer range. He recognizes the comparative nature of roles in society and begins to internalize an interest in particular roles.

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1 - The student will identify three tasks that he is able to perform well and that also interest him.

2.- The student will identify an occupational role which relates to his interests and abilities.

3 - The student will identify three groups, to which he DOES NOT belong, in terms of observable characteristics.

4 - After identifying three groups to which he DOES NOT belong, the student will state at least two similarities, and two differences, that exist between "his" group and the "other" three groups.

5 - The student will identify something he would like to do within the next 30 days.

6 - The student will identify one adult that has interests similar to his.

7 - Having identified three tasks he is able to do well, the student will identify at least **an** ability common to the three tasks.

8 - After stating that the abilities common to tasks he is able to do successfully, the student will identify one peer, and one adult, who exhibits abilities similar to his.

9 - The student will describe the comparative roles of workers within a given situation, and state the roles he has an interest in.

SELF-AWARENESS

GRADE SIX

The student becomes aware that his interests, aptitudes, and achievements will influence his future occupational goals. He recognizes the relationship between his health and physical development and recognizes his cognitive, psychomotor, and effective capabilities. He becomes aware that role expectations influence his development. He becomes more selective about his interests and understands how they relate to this development of values.

1 - The student will identify at least three interests and at least three aptitudes.

2 - The student will state one recent achievement which relates to an interest and aptitude.

3 - The student will state the relationship that exists between his interests, aptitudes, achievements and a possible future occupation.

4 - The student will identify at least five groups to which he belongs and the role he plays within each group.

5 - Having listed ten things that interest him, the student will rank order these interests in terms of importance to him, and state reasons for the highest two in relation to the lowest two.

6 - The student will describe one behavior he exhibits as a result of a cause-effect relationship.

7 - The student will explain the relationship between health and his physical development.

8 - After listing six personal goals to be achieved the student will place these in a priority order and state reasons for the top three.

9 - The student will state at least two long and two short range goals related to his interests.

10 - The student will describe his friends, or contacts, in terms of similar interests, aptitudes and achievements.

11 - Given a list of roles, the student will describe the behavior expected for each role.

SELF-AWARENESS

GRADE SEVEN

The student refines his interests in work roles relative to the career clusters being explored. Experiencing work tasks, he relates associated roles with his emerging values. He recognizes the worth of different value systems and learns to resolve problems of conflict.

1 - The student will state five interest, and at least two occupational work roles which relate to each interest.

2 - The student describes his interests and aptitudes relative to work tasks performed in the industrial arts course.

3 - The student will identify differences in his behavior relative to different classes and teachers, and state the influencing factions responsible for his behavior.

4 - Given a list of roles assigned to others, the student will state what his expected behavior would be in each of the stated roles.

5 - The student will identify at least one friend he did not know last year.

6 - The student will state at least two possible ways in which his future inclusion into the world of work may be most effective to himself and others.

7 - The student will describe his perception of his future life space, relative to specific past and present experiences.

8 - The student will identify at least five groups based on racial, ethnic, or religious association.

9 - Given three racial groups, one of which the student is a member, the student will state five similar physical or behavior characteristics existing between himself and a peer of the other racial groups.

10 - The student will identify three values he holds important in his contacts with other people.

11 - The student will identify roles he may assume within the next ten years.

12 - The student will identify changes in him that has influenced a change in his environment.

13 - The student will identify changes in his invironment that have influenced a change in his behavior.

14 - The student will identify situations in which working alone is preferred over group participation.

SELF-AWARENESS

GRADE EIGHT

The student formulates tenative career choices based upon an awareness of his emerging interests, aptitudes, achievements and values. He understands that priorities, values, and goals are modified throughout life. He recognizes the social, economic, and cultural values related to the various roles which interest him.

1 - Given a list of worker trait characteristics, the student will identify the characteristics which are closely associated with his interests.

2 - Given a list of aptitudes, which are stated as dichotomies, the student will identify one aptitude from each pair that he possesses.

3 - The student will state the relationship between his health, physical capabilities, and a future occupation choice.

4 - The student will identify factors in life which tend to make everyone similar in behavior

5 - Given a list of roles, the student will identify a positive value in each, relative to the social order of his environment.

6 - The student will state the value of his existence to the social order, and identify three others who would "miss him" if he ceased to exist.

7 - Given a list of fifteen occupations, the student will identify the value of the people in these roles to himself personally.

8 - The student will identify three people who influence him the most. He will then state why these people influence him.

SELF-AWARENESS

GRADE. NINE

The student applies recognition of his values and skills to exploration for career information. As his values clarify he establishes tentative career goals. He explores the effects of health and physical development on daily performance. As he experiences different occupational roles he understands how his values relate to his performance of the tasks.

1 - The student will state his expectations and/or hopes for his potential career goals and relate those to his interests and attitudes.

2 - After stating his interests, aptitudes and skills, the student will state alternate career paths to his future.

3 - The student will take a general aptitude test battery and use the results to explore other avenues of vocational interests in conjunction with his counselor.

4 - The student will identify his weakness and state strategies to correct them and turn these weaknesses into a skill that can be utilized within his career scope.

5 - The student will state characteristics unique to himself and how they are different from other peoples'.

6 - The student will identify unique characteristics of other people

7 - The student will state at least two personal goals and at least one person for each who could assist him in attaining these goals.

8 - The student will state the relationship between his health, physical capabilities and a future occupational choice.

9 - The student will state four ways in which he is physically changed since last year.

10 - The student will identify how family, school, peer group, church, community and work experience have influenced his development and career goals.

11 - The student will state at least three relationships between his personal aptitudes and successes in specific occupational areas.

SELF-AWARENESS

GRADE TEN

The student will understand the meaning of his values and emerging goals in relation to his present experiences. He uses the concept of role to analyze his present and projected life-style. He understands personal needs when setting goals and monitoring progress. He is sensitive to his interactions with other people.

1 - The student will list three ideas that he considers to be of high value and state how these effect interaction with his peer group.

2 - Using the values listed in objective #1, the student will state how these values will effect his future career goals.

3 - The student will state how his interests are related to the courses that he has elected to take which are not mandatory to his graduation.

4 - The student will explain how discussions with other people have changed the way he is perceived by others.

5 - The student will state his definition of "role", "present and future."

6 - The student will describe himself in terms of the various roles that he plays in at least two different situations.

7 - The student will state specific behavioral differences and similarities for each of his roles.

8 - The student will describe his desired life-style using his concept of role.

9 - The student will state the forces such as social, economic, educational, and cultural which have influenced his personal development and how each has influenced his development.

10 - The student will list three ideas or things that he considers to be of high value and state how these effect interaction with his teachers, parents and society.

11 - The student will state three interests and how they are related to in school activities.

12 - The student will list how his own personal traits will effect his desired choice of a job.

SELF-AWARENESS

GRADE ELEVEN

The student assesses the personal relevance of his career preparation progress. He constantly evaluates the personal significance of emerging alternatives in terms of considering both new prospects or reaffirming chosen courses of action. He recognizes his uniqueness, the need to consider new alternatives, and demonstrates sufficient self-confidence to set goals.

1 - The student will rank order a list of ten items of interest that he had in the tenth grade, reevalute and relist as pertains to his interest in the eleventh grade.

2 - The student will analyze, by listing, his former and current grades, his educational performances in career preparation programs in order to develop a deeper awareness of his interests, aptitudes and achievements.

3 - The student will state the various roles that he might be able to play within society's framework.

4 - The student will make a list of his strengths and weaknesses and through this list determine avenues of careers that are open to him.

5 - The student will list how his home environment can effect his personality development

6 - Given stress situation, the student will state how he would react in the situation. By this identification, the student will recognize the ability to cope with stress is vital to emotional stability and to his future.

7 - The student will list present and future personal needs.

8 - The student will state the value of his existence to the social order, and identify three others who would "miss" him if he ceased to exist.

9 - The student will state his reason for the selection of one career over another.

10 - The student will state differences among individuals for social needs and wants.

SELF-AWARENESS

GRADE TWELVE

The student considers his pattern of values and his cognitive, effective, and psychomotor skills in making career plans. He perceives himself and others realistically in terms of relationships and proposed plans.

1 - The student will list his current interest, aptitudes, and achievements in educational and career programs which have aided in making his career choice.

2 - The student will list his failures in his educational program and also list how he can turn these failures into possible successes.

3 - The student will list things at which he is successful and how they will enhance his career choice.

4 - The student will state the relationship between his health, physical capabilities and a future occupational choice.

5 - The student will identify, by listing, his unique abilities and interests.

6 - The student will identify three people who influenced him the most and state why these people influenced him.

7 - Given a list of roles, the student will identify a positive value in each relative to the social order of his enviornment.

8 - Given a list of fifteen occupations, the student will identify the value of the individuals in these roles as related to himself personally.

9 - The student will identify three out-of-school work experiences and state how they will effect his future career.

10 - After listing six personal goals to be achieved, the student will palce these in a priority order and state reasons for his top three choices.

11 - The student will identify roles he may assume within the next ten years.

12 - The student will cite five influences that have effected his choice of career

EDUCATIONAL AWARENESS

KINDERGARTEN

The student becomes aware that situations relevant to school achievement may be experienced in and outside of the classroom. He recognizes that school activities relate to himself and his family.

1 - The student will identify one similarity between home and school.

2 - The student will state one thing he has learned at school.

3 - The student will state one thing he has learned outside of school.

4 - The student will state one classroom and outside experience which are related.

5 - The student will state one reason for going to school.

6 - The student will identify one thing taught in school which is used by his family members at home.

7 - The student will identify one school activity which is similar to a home activity.

EDUCATIONAL AWARENESS

GRADE ONE

The student becomes aware that he is in school to learn and that other people know things because they have learned. He recognizes that learning to read, write, and count is necessary both in the classroom and in most occupations.

1 - The student will identify three things he has learned to do in school.

2 - The student will identify two classroom and out of school experiences which are related.

3 - The student will identify at least one educational requirement for an occupation performed by a member of his family.

4 - The student will state the relationship between learning and performing certain tasks.

5 - Given a list of occupations, the student will, identify two educational requirements needed to be successful in each.

6 - The student will list two occupations which do not require the ability to read, write or count.

7 - The student will list five school or community workers and determine if they can read, write and count.

EDUCATIONAL AWARENESS

GRADE TWO

The student becomes aware that he can share knowledge with his classmates. He understands how classroom and outside-of-school experiences may be related. He recognizes that various occupations have different educational requirements. He becomes aware that learning helps people do things for their community, state, and nation.

1 - The student will state one situation in which he taught or showed, a peer, how to do something.

2 - The student will state one situation in which a peer showed him how to do something.

3 - The student will identify five things taught at school.

4 - The student will state one thing learned outside of school.

5 - Given a list of five occupations, the student will,state at least three educational requirements.

6 - The student will state how learning helps people to do things for their community, state, and nation.

7 - The student will identify two thing he can do this year that he was unable to do last year.

EDUCATIONAL AWARENESS

GRADE THREE

The student becomes aware that learning is continuous and that school experiences are relevant to life experiences. He recognizes that goods and services are produced by people who have different kinds of educational preparation. He recognizes that the student-teacher and student-student relationships are an important aspect of the learning process.

1 - After keeping a diary for two weeks, the student will, identify things which were done each day.

2 - After identifing things done each day, the student will, state how things differed from day to day.

3 - The student will state three out-of-school learning experiences.

4 - The student will state three life experiences which relate to school experiences.

5 - The student will state his interpretation of the term "Career Preparation."

6 - The student will state the relationship between education and career preparation.

7 - The student will state by name one comprehensive, and one vocational-technical high school within the county.

8 - Given a list of occupations, the student will, state how communications, science, mathematics and social studies are used by the workers.

9 - The student will state the relationship between himself, his teacher and peers in the learning process.

EDUCATIONAL AWARENESS

GRADE FOUR

The student becomes aware that learning is based on prior experiences. He understands that different occupations require different educational preparation. He becomes aware of how and why reading, writing, number skills, art, and sciences are used in some occupations.

1 - The student will state five reasons for attending school.

2 - The student will describe present learning experiences in terms of prior experiences.

3 - The student will interview an older person, not from his school, and state how this person is continuing his education.

4 - The student will identify three workers who use each of the following: reading, writing, mathematics, art, and science in performing their jobs.

5 - The student will identify a relationship between his educational skills and those used by a worker.

6 - Given a list of occupations, the student will, classify these in terms of educational level requirements.

7 - The student will state a relationship that exists between reading and mathematics.

8 - The student will state three things that help him in learning.

EDUCATIONAL AWARENESS

GRADE FIVE

The student becomes aware of the importance of education and the relationship between in and out-of-school learning. He recognizes how school experiences become preparation for careers and the correlation between skills learned in school to those used by workers.

1 - The student will identify at least one adult who is continuing his education and state two reasons why.

2 - The student will identify, by name, an "adult related" school.

3 - The student will describe how attainment of specific educational skills or levels influence a person's earning potential.

4 - The student will state three situations where he has helped another student.

5 - The student will state one situation in which he has taught an adult something.

6 - The student will describe the relationship between in and out-of-school learning.

7 - The student will identify two out-of-school experiences in which in-school learning was used.

8 - The student will describe the relationship that exists between at least three of his school subjects.

9 - In a occupational role playing situation, the student will state, the educational skills needed in order to perform related tasks successfully.

EDUCATIONAL AWARENESS

GRADE SIX

The student becomes aware that learning depends on his desire and capability to learn. He understands that preparation and proficiency are required for job entry in most occupations. He recognizes educational factors which affect career choices and employment conditions.

1 - The student will state five occupations held by persons having: 1) only an eighth grade education, 2) a high school diploma, 3) vocational high school background and diploma, and 4) specialized two-year post high school training, and 5) a college degree.

2 - The student will state two learning experiences not related to formal classroom subjects.

3 - The student will state how much time is used for out-of-school and; for in-school related learning.

4 - The student will state the relationship between present educational activities and career preparation.

5 - The student will identify school activities that may relate to his use of time through out life.

EDUCATIONAL AWARENESS

GRADE SEVEN

The student recognizes various learning experiences and relates them to possible use in occupational groups. He understands that educational experiences and preparation are required for careers. He recognizes that external factors may affect his interest in certain occupations.

1 - The student will state the relationship between each of his courses and specific occupations.

2 - The student will describe the interrelationship of all of his school subjects.

3 - The student will describe his education in terms of his cognitive, affective and psychomotor development.

4 - The student will describe at least two types of high schools in terms of occupational preparation.

5 - The student will state the relationship between school and "entry level" skills.

6 - The student will state the minimum educational requirement for at least ten occupations.

7 - The student will state the occupation of an adult and identify the process used for entry into it.

8 - Given a list of twenty-five occupations, the student will, state a "common ability of learning or skills" required for at least two groupings of five occupations each.

9 - The student will state at least five course offerings at the local vocational-technical school.

10 - The student will state an occupational perference, and the type of education training at the high school level needed for entry into the occupation.

11 - The student will tentively identify a high school he wishes to attend and state the entrance requirement of that school.

12 - The student will state how math, English, science and social studies interface with industrial arts.

EDUCATIONAL AWARENESS

GRADE EIGHT

The student becomes aware of the relationship between interest and learning and the differences among cognitive, affective, and psychomotor learning. He recognizes the relationship between levels and types of education and employment. He understands that proficiency in subject areas is necessary to enter certain occupations.

1 - Given a list of all the high schools in the county, open to him for application, the student will identify the general occupational outcomes expected from each one.

2 - The student will state the relationship between interest and learning.

3 - The student will state how in and out-of-school experiences have contributed to his total learning.

4 - The student will identify similarities existing between the student-teacher and employee-supervisor relationships.

5 - The student will state the relationship between level of education and level of employment.

6 - The student will identify the educational requirements needed for entry into occupations within selected career areas.

7 - The student will state early in the school year (Sept., Oct.) the high school of his choice, application procedures and date requirements needed to be accepted.

8 - The student will state a reason for the selection of one high school over another in terms of career preparation.

9 - The student will state the relationship that exist between Industrial Arts and his other subjects.

10 - The student will state similarities existing between Industrial Arts education at junior high and vocational-technical education in high school.

EDUCATIONAL AWARENESS

GRADE NINE

The student becomes aware that learning can apply to his use of time throughout life. He learns that educational preparation for various careers may take different forms. He accepts simulation as a means of learning job skills and examining a tentative job choice.

1 - The student will state the relationship between one or two of the subjects in school and something he does outside of school.

2 - The student will identify at least one educational requirement necessary for entry into an occupation performed by a member of his family.

3 - The student will state the relationship between learning and the performing of occupational duties and/or responsibilities for at least five given occupations.

4 - Given a list of occupations, the student will identify the minimum educational requirements needed to be successful in each.

5 - The student will role-play three careers of his choice.

6 - The student will state which high school subjects he believes will be in keeping with his tentative career goals.

7 - The student will define the expected performance requirements of at least three jobs.

8 - The student will state the relationship between the success of a worker's educational development and success in specific occupations.

EDUCATIONAL AWARENESS

GRADE TEN

The student becomes aware of the extent in-school education has played in determining his occupational interests. He recognizes a relationship between in-school and on-the-job education. He learns that different types of educational preparation are needed for various careers.

1 - The student will state two similarities and two differences found in formal education as compared to on-the-job training.

2 - Given a list of careers, the student will state educational preparation necessary for each.

3 - The student will describe how attainment of specific skills or educational levels influence a person's earning potential.

4 - The student will state five occupations held by persons having
  a. only an eighth grade education
  b. a high school diploma
  c. a vocational high school background and diploma
  d. a specialized two-year post high school certificate
  e. a college degree

5 - A student will state two learning experiences not related to formal academic subjects.

6 - The student will construct a graph indicating the time used for out-of-school activities and in-school related learning.

7 - The student will state how math, English, science and social studies interface with their tentative career choice.

8 - The student will identify skills acquired in school relevant to stated occupations.

9 - The student will state how education can effect a person's social and economic potential.

10 - The student will identify similarities existing between a student-teacher and employee-supervisor relationship.

EDUCATIONAL AWARENESS

GRADE ELEVEN

The student becomes aware that learning is variable, that one learns faster or slower at different times. He learns the in-school educational steps necessary to qualify for selected occupations. He recognizes the need to evaluate his progress as he moves toward career goals.

1 - The student will interview and report on three adults who are employed and ascertain how their formal education was instrumental in securing their jobs.

2 - The student will interview three adults and report if they are anticipating further education for job advancement and if so,how.

3 - The student will state how in-school education is necessary to qualify for selected occupations.

4 - The student will identify how selected school classes relate to participation in his community as a leader.

5 - The student will state how different career directions require varying types of educational preparation.

6 - The student will evaluate, in writing, his educational progress towards tentative career goals and assess its suitability.

7 - The student will confer with his conselor, coordinator or teachers to discuss his plans of course selection for the remainder of his high school years in light of his tentative career choice.

8 - The student will state how in and out-of-school experiences have contributed to his total learning.

9 - The student will state the relationship between level of education and entry level for employment.

10 - The student will identify similarities existing between the student-teacher and the employee-supervisor relationship.

11 - The student will identify school activities that may relate to his use of leisure and work time throughout his life.

12 - After listing the grades he has received to date, the student will reevaluate his career goals according to his interests, aptitudes and achievements, and write in what manner his grades will affect his career goals.

EDUCATIONAL AWARENESS

GRADE TWELVE

The student understands why and how he learns. He plans for post-secondary educational experiences necessary for the career of his choice. He recognizes that continual learning is a part of life.

1 - Student will list the courses that have and will determine his choice of career.

2 - The student will list how future school classes and activities will relate to his anticipated social and business life.

3 - The student will state the post-secondary educational experiences that will be required for the career of his choice.

4 - The student will state at least three reasons by learning is necessary.

5 - The student will state two of the most valuable learning experiences, both in and out of the school setting, that he has had.

6 - The student will state the educational steps necessary to gain entry into his chosen career following his high school education.

7 - The student will state a relationship between future in-school and on-the-job education.

8 - The student will state how advanced education will effect his career choice after he has graduated from high school.

9 - The student will identify the working and/or learning experiences necessary for entry level to his chosen field of endeavor.

10 - The student will identify at least two reasons that a person attends school at the post secondary level.

11 - The student will identify at least three post secondary institutions related to his entry or advancement in his chosen field of endeavor.

CAREER AWARENESS

KINDERGARTEN

The student becomes aware that there are many kinds of tasks to be done in school. He recognizes workers in the community and becomes aware of some of the goods produced and services provided.

1 - The student will identify at least three tasks performed by two different people at school.

2 - The student will identify at least two occupations found at school.

3 - The student will state the occupations of his parents.

4 - The student will identify two workers in his community.

5 - The student will state two tasks required of him as a student.

6 - The student will state at least two occupations of his neighbors.

7 - The student will identify or describe two community workers by their dress characteristics.

8 - The student will identify one worker related to each of his basic needs.

9 - The student will state the difference between work and play.

10 - The student will give examples of goods produced and services provided by people.

11 - The student will identify one tool used in his home.

CAREER AWARENESS

GRADE ONE

The student becomes aware of a variety of jobs in his home, school, and community. He recognizes different places of employment. He becomes aware that specialized skills and training are required to perform most jobs. He becomes aware of the concepts of basic needs in relation to himself. He recognizes that social needs require workers to exist.

1 - The student will identify two jobs found in his home, five jobs found in school, and five jobs found in his community.

2 - The student will state two tasks performed by each of three workers at school.

3 - The student will state the importance of cooperation of people within a home environment.

4 - The student will identify three places of employment within his community.

5 - The student will identify two workers who provide a service.

6 - The student will identify three workers and state one reason (each) for their existence.

7 - The student will state the meaning of "Occupational Title."

8 - The student will identify three pairs of occupational titles which are related.

9 - The student will identify specific dress requirements related to three occupational titles.

10 - The student will identify three workers who use "tools" and the tools they use.

CAREER AWARENESS

GRADE TWO

The student becomes aware of his family's basic needs and the concept of lifestyle. He becomes aware of the relationship between needs and jobs in his home, school, and community. He recognizes that individual skills affect task performance.

1 - The student will describe the variety of work performed in his community.

2 - The student will state the interdependency of workers within a given setting.

3 - The student will state two tasks performed by a worker in terms of specialized skills possessed by that worker.

4 - Given a list of needs, the student will, identify at least two workers associated with each need.

5 - The student will state one difference between a paid worker and a volunteer.

6 - The student will state how jobs meet the needs of school workers.

7 - Given a list of occupational titles, the student will, identify at least two "tools" used by each worker in that occupation.

8 - Given a list of occupational groups, the student will, state at least one similarity of tasks common to all of them.

9 - Given the statement: "Every student is a worker." the student will, state three tasks required of him as a worker.

10 - The student will identify the skills, tools, and materials needed to perform a stated job.

11 - The student will identify which occupation he likes best and state one reason.

CAREER AWARENESS

GRADE THREE

The student becomes aware of the variety of job tasks in the occupational world and their relationship to goods and services. He learns that preparation of school task relates to success in performance. He identifies some instruments used to perform specific tasks. He recognizes that basic needs for goods and services are satisfied by working.

1 - The class will compile, over a period of time, at least twenty occupational titles associated with school and city government.

2 - Having stated the difference between "production of goods" and "providing of services" the student will, identify at least ten occupational titles associated with each.

3 - The student will state a reason why there is a need for job specialization within the world of work.

4 - The student will identify occupations particular to specific geographic regions within the city and/or county.

5 - The student will relate his hobby tasks to tasks performed by a worker.

6 - The student will state the relationship between the skills, tools, and materials necessary to do three different jobs.

7 - The student will state how preparation for a job may be related to success in doing that job.

8 - The student will state an occupation and list other occupations which are related.

9 - The student will state the "vocational history of an adult" and identify elements common to all jobs held by that person.

10 - Given a list of occupations, the student will, identify major characteristics of the working environment for each occupation.

CAREER AWARENESS

GRADE FOUR

The student recognizes career specialization in his community, state, nation. He becomes aware of the social and economic factors that generate careers. He becomes aware of the interdependence of occupations to fulfill individual and community needs and interests. He learns about occupations and working conditions associated with five career clusters.

1 - The student will identify at least ten specialists and state why they are considered specialists.

2 - The student will state general characteristics of workers within five stated occupations.

3 - The student will state general characteristics associated with each of three stated jobs.

4 - Given the following occupational classifications: service, business/selling, technical, outdoor, and science the student will identify five occupational titles related to each, and the class will compile an occupational listing of at least twenty-five occupations for each.

5 - The student will state the interdependence of at least five workers to fulfill a need of the community.

6 - The student will identify occupations, or groups of occupations, associated with geographical regions of the state.

7 - The student will state general working conditions associated with the following occupational classifications: service, business/selling, technical, outdoor, and science.

8 - The student will identify five occupations which are "seasonal" in nature.

9 - The student will identify three common requirements needed for entry into a stated group of jobs.

10 - The student will identify three places of business and state the general characteristics of two people who work there.

CAREER AWARENESS

GRADE FIVE

The student becomes aware of the complexity of the world of work. He recognizes that success in an occupation requires functional competencies and that performance standards are necessary. He recognizes that occupations are related to community needs and interests which change over time.

1 - The student will identify five occupations for each of the following groups in which the emphasis is in specific educational competencies: art, mathematics, English, social studies/history and science.

2 - The class will compile a listing of twenty-five occupational titles for each of the groupings stated above.

3 - The student will identify ten occupations for which specialized training is necessary.

4 - The student will identify jobs having similar tasks in city, state and national governmental agencies.

5 - The student will identify five jobs which existed in 1776 that do not exist today and state a reason why.

6 - The student will identify ten jobs existing today which did exist in 1776 and state a reason why.

7 - The student will state three performance standards he has to meet to be a successful student.

8 - Given a stated product, the student will identify at least five workers who contributed to its' production and state how they contributed.

9 - The student will identify the relationship between jobs and school experiences.

10 - The student will identify inventions and discoveries which have changed man's work over the past one-hundred years.

CAREER AWARENESS

GRADE SIX

The student studies jobs according to particular classifications and identifies their relationships. He relates careers to social needs and geography and recognizes their relationship with date, people, and things. He recognizes that behavior and skills which influence success in school also influence job success. He understands that career changes are natural and that careers may begin and terminate with the passage of time.

1 - The student will identify at least five ways, he feels, occupational titles can be classified, giving five examples within each classification and stating characteristics similar to the occupations within each cluster.

2 - The student will identify five kinds of work which involves working with people; working with ideas; working with things.

3 - The student will identify jobs that have appeared and disappeared as a result of technological developments.

4 - The student will identify specific and general skills necessary to certain occupations.

5 - The student will identify areas where career specialities evolved due to geographical location.

6 - The student will state specific job requirements as they relate to various situations.

7 - The student will identify at least two behavior's which influence success in both school and work.

8 - The student will differentiate between careers and jobs.

9 - Given a list of occupations, the student will, classify them in to the following minimum levels of education necessary for entry: less than high school, high school, vocational-technical high school, post high school, apprenticeship, community college, college.

CAREER AWARENESS

GRADE SEVEN

The student explores the types of jobs which make up various classifications. He recognizes the relationship between occupational requirements and educational development. He understands the relationship between career choice and rewards.

1 - The student will state at least twenty occupations relative to the industrial arts course he is in.

2 - The student will state the inter-relationship of at least ten occupations within a given cluster.

3 - The student will identify a cluster of occupations in terms of a career hierarchy.

4 - The student will state the relationship between specific industries in fulfilling the needs of society.

5 - The student will state the relationship between specific careers and the workers general educational development.

6 - The student will identify performance requirements for the careers which he explored.

7 - The student will state the preparation requirements for the careers which he explored.

8 - The student will describe the working environments of the careers which he explored.

9 - The student will identify the skills needed for five occupations in each career area explored.

10 - The student will state tentively three occupations or career areas he is interested in for a future worker role.

11 - The student will describe why he has chosen these occupations or areas in terms of reward, skills, interest, job opportunity, educational preparation, and family background.

CAREER AWARENESS

GRADE EIGHT

The student recognizes how careers become specialized and vary on the basis of the complexity of social needs and geographic locations. He recognizes occupational characteristics as they relate to functioning in terms of data, people, things and that choice, mobility, and advancement are related to preparation.

1 - The student will identify several careers related to his industrial arts areas and state the specialized jobs related to each.

2 - The student will state a tenative occupational choice in terms of his interests and attainments.

3 - The student will identify the characteristics of at least five jobs as they relate to levels of functioning in terms of data, people, things.

4 - The student will identify the relationship between specific career preparation and specific occupations.

5 - Given a list of occupations, the student will, state the relationship of preparation to horizontal and vertical mobility.

6 - The student will identify differences in entry requirements for different career fields.

7 - The student will state advantages and disadvantages of a variety of careers in terms of mobility, advancement and opportunity for employment in the next five to ten years.

8 - The student will classify jobs into clusters on the basis of job characteristics.

CAREER AWARENESS

GRADE NINE

The student becomes aware of the implications of career specialization. He recognizes the relationship between specific occupational preparation and career clusters. He becomes aware of job entry requirements

1 - The student will list ten different occupations

2 - For each stated cluster, students will write at least five job classifications.

3 - Student will list three constructive contributions to society for any given occupation.

4 - The student will state the requirements related to performing five basic tasks for a set of stated occupations.

5 - The student will delineate expected performance requirements of his career goals.

6 - The student will state entry requirements for five preferred occupations.

7 - The student will list three occupational clusters that exist because of community needs.

8 - The student will state any possible factors that might influence development, termination or change of the job structure within a career cluster.

9 - The student will state five areas of responsibility related to a job.

10 - Given a list of specialized jobs, the student will state how geographical locations and natural resources affect these jobs.

11 - The student will state how simulation has aided in his tentative career goals after he has role-played several types of jobs.

CAREER AWARENESS

GRADE TEN

The student explores occupations related career clusters he is considering. He becomes familiar with current and future job opportunities as they relate to social and economic trends in certain geographic areas. He recognizes personal and organizational factors that influence horizontal and vertical mobility.

1 - The student will list the variety of occupations that he might be interested in, and categorize these by cluster.

2 - The student will state three ways in which his chosen field of endeavor will relate to the needs and functions of society

3 - The student will list at least five present job opportunities, as related to his social and economic goals, in his geographic area.

4 - The student will cite the specific requirements that might be connected with his career choice.

5 - The student will state two factors that could influence the horizontal and vertical mobility for a worker within an occupational cluster.

6 - The student will give an expamle how rewards may vary with the requirements and responsibilities of a job.

7 - The student will identify and classify thirty local jobs into clusters.

8 - The student will identify and classify jobs located outside of his immediate community or city.

9 - The student will identify characteristics which differentiate between a given set of jobs.

10 - The student will state the projected openings for the next five years for the career of his choice.

11 - The student will state the importance and limitation of career specialization

CAREER AWARENESS

GRADE ELEVEN

The student examines social and personal implications related to selected career areas. He understands the criteria and training required to enter his chosen career. He understands that career selection is vital to his general well-being and can affect his life-style.

1 - The student will state why he believes there is a relationship between career and life-style.

2 - The student will state three advantages and three disadvantages related to the career of his choice.

3 - The student will state specific job opportunities as related to given geographic areas and how they are affected by economic trends.

4 - The student will explain the meaning of mobile careers and how they can cause change in an individual's life-style.

5 - The student will state his career goal and list other occupations which are related to this goal.

6 - The student will differentiate between careers and jobs.

7 - Given a list of occupations, the student will classify them into the following minimum levels of education necessary for job entry:
   1. Less than high school
   2. high school
   3. vocational, technical high school
   4. post high school
   5. apprenticeship
   6. two-year community college
   7. college

8 - The student will identify performance requirements for entry into the occupations which he has explored.

9 - The student will describe why he has chosen a specific career path in terms of reward, skills, interest, job opportunity, educational preparation and family background.

10 - The student will state his work experience, if any, and how it will relate to the career he would like.

CAREER AWARENESS

GRADE TWELVE

The student evaluates future job opportunities based on his values and goals. He knows how to pursue his chosen career, develops an action plan, and takes the steps which are necessary to implement his plan.

1 - The student will list the requirements for the career he has chosen.

2 - The student will state the desirable and undesirable attributes related for his specific career.

3 - The student will list either academic or vocational steps that are necessary to gain entry into his chosen career.

4 - The student will investigate and state employment opportunities in his career area based on local, regional and national trends.

5 - The student will list agencies available that will assist him in his pursuits for a job in his chosen career.

6 - The student will define the expected responsibilities in a specific occupation for which he seeks employment.

7 - The student will list the requirements for mobility, both horizontally and vertically, in his chosen career.

8 - The student will prepare a resume with a view towards submitting it at a given opportunity for his chosen career.

9 - The student will complete several types of applications forms.

10 - Ths student will act the role of a job applicant in a simulated interview.

ECONOMIC AWARENESS

KINDERGARTEN

The student becomes aware of why people work. He recognizes some of the uses of money and trade. He learns that, in some instances, fulfillment of his wants must be postponed.

1 - The student will state two reasons why people work.

2 - The student will state one use of money.

3 - The student will state two ways he can obtain something.

4 - The student will state the difference between spending and saving.

5 - The student will state one reason why he cannot have everything he wants.

6 - The student will identify something he wanted that he had to wait for.

ECONOMIC AWARENESS

GRADE ONE

The student becomes aware of the different forms of money and financial institutions. He recognizes that money is exchanged for work. He recognizes the relationship between need and want.

1 - The student will identify one place where people save money.

2 - The student will state a benefit derived from working.

3 - The student will identify two forms of money.

4 - The student will state two reasons why people save money.

5 - The student will state that people are paid for work.

6 - The student will identify two ways he is able to obtain something he wants in terms of buying with money or trading.

7 - The student will identify two things he needs to live.

8 - The student will identify something he wants that is not necessary for life.

ECONOMIC AWARENESS

GRADE TWO

The student becomes aware that different kinds of work offer different economic rewards and other benefits. He becomes aware of money as a means of exchanging goods and services. He becomes aware of the economic relationship between himself, family, and school.

1 - The student will state the differences in economic rewards for at least two occupations.

2 - The student will state at least two benefits, other than money, associated with work.

3 - The student will state why people work to earn money.

4 - The student will state **five** uses of money.

5 - The student will state the relationship between money earned and money spent.

6 - The student will state how a person can save money.

7 - The student will state two reasons why a person saves money in a bank.

8 - The student will state expenses incurred by himself, his family and his school.

9 - The student will identify someone who takes care of the expenses incurred by himself, his family and his school.

ECONOMIC AWARENESS

GRADE THREE

The student recognizes that needs and wants differ among students. He becomes aware that economic rewards help satisfy desires and interests. He understands his present relationship to buying, selling, saving, and borrowing. He recognizes the ecomonic relationship between himself, family, and community.

1 - The student will identify how the economic rewards for work may satisfy needs and wants.

2 - The student will identify at least three needs which are similar among his peers.

3 - The student will identify wants that are similar and different among his peers.

4 - The student will state the relationship between buying, selling, and saving as it relates to a person's income.

5 - The student will define borrowing as a way to obtain something with the promise to return it.

6 - The student will identify something for which money was "borrowed" by his family.

7 - The student will identify two places where people can borrow money.

8 - The student will state one reason why people borrow money.

9 - The student will describe his present relationship to buying, selling, saving, and borrowing.

10 - The student will state the economic relationship between himself, his family, and community.

ECONOMIC AWARENESS

GRADE FOUR

The student recognizes how money buys goods and services. He recognizes that ecomonic activities include buying, selling, saving, and borrowing. He understand that the satisfaction of individual needs and wants is a function of money and benefits. He becomes aware of the relationship between interests, satisfaction, and career. He begins to understand the relationship between economic security and life style.

1 - The student will state an economic need he has.

2 - The student will identify at least three goods and services, and state how money is used to purchase each of the goods and services.

3 - The student will state how rewards usually go to those who extend the effort to gain them.

4 - The student will identify the economic activities of himself and his family.

5 - The student identifies the econimic rewards of work in terms of money and benefits.

6 - The student will state the relationship between satisfaction of his interests and economic rewards for work.

7 - The student states the importance of economic planning as it relates to needs and wants of people.

8 - The student identifies two different life styles in terms of career and economics.

9 - The student will identify the costs involved in credit or borrowing money.

10 - The student states how people make investments in real property.

11 - The student will identify two things that help a person to become economically secure.

ECONOMIC AWARENESS

GRADE FIVE

The student identifies the roles of financial institutions. He recognizes that some economic actions are an attempt to achieve economic security. He expands his knowledge of job benefits. He becomes aware of the uses of budgeting, investment, and credit purchasing. He can identify necessities and luxuries. He begins to recognize the responsibilities associated with economic management.

1 - The student will identify at least four services provided by financial institutions.

2 - The student will state how a family goes about economic planning.

3 - The student will identify at least two terms related to credit.

4 - The student will state the relationship between economic security and career security.

5 - The student will identify at least three non-salary earnings associated with a job.

6 - The student will identify at least three actions which one could take to make a person economically secure.

7 - The student will demonstrate how he would budget his money if he made ________ a week.

8 - The student will identify two types of investments.

9 - The student will identify five examples of necessities and luxuries.

10 - The student will state at least three responsibilities a person has in the economic management of a home.

ECONOMIC AWARENESS

GRADE SIX

The student becomes aware of the economic contributions of organized groups. He becomes aware of the interrelations between earnings, spending, credit, saving, and investing in terms of long and short range goals. He recognizes economic principles which apply to his family, and community. He becomes aware of factors which affect economic benefits and costs of goods and services.

1 - The student will identify at least five economic benefits associated with work.

2 - The student will state how organizations have contributed toward increasing economic benefits for people.

3 - The student will state the interrelations between earnings, spending, credit, saving and investing in terms of short and long range goals.

4 - The student will state at least two considerations associated with credit buying.

5 - The student will identify examples of economic principles which apply to his family and community stores.

6 - The student will state how priorities affect the use of one's money.

7 - The student will identify at least two actions which could affect the economic benefits and rewards of a worker.

8 - The student will state at least two factors which affect the prices of goods and services.

9 - The student will state the relationship of supply and demand, in terms of cost to a consumer.

10 - The student will state how the expenses that enter a budget depend upon the economic situation of a person.

ECONOMIC AWARENESS

GRADE SEVEN

The student becomes aware of the economic relationships between life-styles and career choices. He is able to demonstrate budgeting principles and recognizes the concept of economic security. He recognizes economic trends and their affect on employment. He becomes aware of the relationship between career planning on economic attainment and security.

1 - The student will identify general characteristics of different life styles associated with his tentative career choices.

2 - The student will state how different life styles are a function of planned economic management as well as earned income and benefits.

3 - The student will state the geographical earnings and benefits associated with at least five careers explored.

4 - Given a list of twenty occupations, the student will categorize these in groups relative to economic rewards.

5 - The student will identify three careers that interest him, and state at least two fringe benefits associated with each.

6 - The student will state how general economic trends affect employment.

7.- The student will state at least six factors that affect the economic security of a person.

8 - The student will state the relationship between supply, demand, and employment.

9 - The student will state examples of fixed and variable expenses as they relate to his family.

10 - The student will state the relationship between career planning, and economic attainment and security.

ECONOMIC AWARENESS

GRADE EIGHT

The student applies his knowledge of life-style and economic security to explore his attitudes towards occupational choices. He expands his knowledge of organizations which have affected increases in economic rewards. He becomes aware of budgeting, capital management, and financial institutions. He recognizes economic cycles and fluctuations which affect individual, family, community, state, and national economic interests.

1 - The student will state his attitudes towards certain careers relative to economic rewards, associated life style and security.

2 - The student will state the relationship between education and economic rewards.

3 - The student will identify at least five activities of financial institutions and their effects on people's economic management.

4 - The student will identify at least four labor organizations and how they have increased the rewards and benefits to their members.

5 - The student will state a possible budget, for two different families, with two differing incomes.

6 - The student will state how increases in employee benefits affect economic planning.

7 - The student will state how the use of credit involves planning and responsibility.

8 - The student will state at least two ways he can prepare for future economic security.

9 - The student will state at least two economic trends in his community, state, and nation.

10 - The student will state the effect of economic trends on buying, selling, and employment.

ECONOMIC AWARENESS

GRADE NINE

The student surveys the range of social and economic benefits in the career cluster of his choice. He understands that career choice and money earned can affect his life-style. He examines career choices using his knowledge of economic planning, recognition of uncontrollable events and of economic interdependence of the community, the state, and the nation. He becomes aware of macro-systems and tools used in economic forecasting.

1 - The student will state in his own words what "credit" means.

2 - The student will state what "budgeting" is and will prepare a personal budget of his money.

3 - The student will state how economic understanding can be related to his life-style in the future.

4 - The student will list at least three ways in which money can be invested.

5 - The student will state the range of economic benefits associated with various occupations.

6 - The student will state at least five reasons for the necessity of saving money, and where money is to be saved.

7 - The student will state the relationship between earnings, spending and saving.

8 - The student will identify at least three borrowing institutions and explain the meaning of interest rates.

9 - Given ten problems on interest, the student will be able to determine the amount of money paid for the use of money borrowed.

10 - The student will state the economic relationship between himself and his family and the community.

ECONOMIC AWARENESS

GRADE TEN

The student identifies the immediate steps and costs in terms of time, money and education required to pursue a chosen career. He understands principles which govern economic macro-systems and recognizes their relationship to his career goals.

1 - The student will state how wealth can be accumulated through savings and investments.

2 - The student will give three reasons why wealth may influence his career and life-style.

3 - The student will state the relationship between credit and responsibility.

4 - The student will describe, in writing, how attainment of specific educational skills or levels influences a person's earnings potential.

5 - Given a fictional sum of money, the student will set up a budget for his own personal needs.

6 - The student will define "recession", "depression", and "inflation".

7 - The student will state the relationship between formal education and earning capacity.

8 - The student will give three reasons for borrowing money and indicate institutions of borrowing.

9 - The student will define the term "interest."

10 - Given ten problems on interest, the student will be able to determine the amount of money paid for the use of money borrowed from a financial institution.

11 - The student will state the differences in economic institutions and relate effects of these differences to his life.

12 - The student will state how a career will effect his financial status.

ECONOMIC AWARENESS

GRADE ELEVEN

The student understands that individual value systems determine economic and career aspirations. He determines how his social and economic needs relate to his career choice. He understands the relationships between different economic macro-systems. He understands economic trends and uses the tools for forcasting them in relation

1 - The student will state the relationship between careers and earning capacity.

2 - The student will relate how wealth can be accumulated.

3 - The student will state the effects of economic macro-systems have on his life-style.

4 - The student will write the names of five investment institutions, state and compare their functions.

5 - The student will state how economic principles can affect his present situation.

6 - The student will state the relationship between economic security and career change.

7 - The student will state political reasons for a fluctuating economy.

8 - The student will write the strategies used for predicting economic trends in his community, state and nation.

9 - The student will state how cyclical economic trends influence career choices.

10 - Student will explain the meaning of the "stock market" and how it effects our economy.

11 - Student will explain how the economics of other countries are interrelated.

12 - The student will be given a fictional sum of money and will set up a budget for his own personal needs and uses.

13 - The student will explain the effect of supply and demand on the production of goods and services.

ECONOMIC AWARENESS

GRADE TWELVE

The student understands the economic and social benefits associated with his career plans. He understands the action and finances necessary for entering his chosen career. He understands that his economic and career security are interdependent with that of other individuals.

1 - The student will state the relationship of social and economic benefits associated with various occupations.

2 - The student will state the range of social and economic benefits associated with his career choice.

3 - The student will state how investments can effect his life-style.

4 - The student will write three different types of investments and how they differ from each other.

5 - The student will state the effect his life-style desires may have upon his career choice.

6 - Given four economic situations - depression, recession, inflation and prosperity, the student will state career future in terms of community, state and national employment opportunities.

7 - The student will state how government spending can effect the economy.

8 - The student will list the reasons why the economies of different governments are interrelated.

9 - The student will state how his economic and career security are interdependent with that of other individuals.

10 - The student will describe in writing how attainment of specific educational skills or levels influence a person's earning potential.

DECISION MAKING

KINDERGARTEN

The student becomes aware that he has a choice in some situations related to himself, family, and school. He understands that decisions require "making up one's mind." He becomes aware of the kinds of media that interest him most.

1 - Given a choice of toys to play with, the student will choose one and state why he chose it.

2 - The student will identify the media he enjoy's the most.

3 - The student will state two sources that give information.

4 - The student will state two choices he makes each day.

5 - The student will state something he wants to do.

6 - The student will state something he has to do.

7 - The student will state an outcome (goal) of a play activity.

DECISION MAKING

GRADE ONE

The student becomes aware of the relationship between his interests and making choices. He becomes aware that reasons for making choices may change and that information sources influence his choices. He becomes aware of the relationship between alternatives and choices.

1 - The student will identify two situations in which he has to make a choice.

2 - The student will state the relationship between his interests and making choices.

3 - The student will state at least two reasons why he would not go out to play.

4 - The student will state at least two factors which influence his choice.

5 - The student will define "alternative."

6 - The student will state that a goal is "something he wants to do" or "someplace he wants to go to."

7 - The student will describe "a goal" relative to scoring points in a sporting event.

8 - Given a goal, the student will state two ways of reaching it.

DECISION MAKING

GRADE TWO

The student recognizes that having interests necessitates making choices in and out of school. He becomes aware that his choices effect other people and that they may or may not be accepted. He becomes aware of decisions that family members and neighbors make in their jobs.

1 - The student will identify three things he wants to do.

2 - The student will state one way that his interests affect his choices in and out of school.

3 - The student will state three sources of information found in his neighborhood or community.

4 - The student will identify something he did that affected the way another person reacted towards him.

5 - The student will state a choice in which his resulting behavior was unacceptable to others. He will also state an alternative behavior that would have been acceptable.

6 - The student will identify a goal and state his behavior relative to his goal.

7 - The student will state two responsibilities he has.

8 - The student will state two decisions made by family members relative to their jobs.

9 - The student will describe the behavior of a sports team and also state that a team's "different plays" are alternative attempts to reach a goal.

10 - The student will state a personal goal which relates to a need.

DECISION MAKING

GRADE THREE

The student becomes aware that decisions made in school affect decisions outside of school. He recognizes that decisions involve other people. He becomes aware that solutions to problems differ and making decisions involves consequences. He knows where to gather information regarding jobs performed by his family and neighbors.

1 - The student will identify one instance where a goal set in school affected decisions outside of school.

2 - The student will state three examples of decisions he has made.

3 - The student will state a decision he made, and two factors which influenced him to make it.

4 - The student will state three people who influence his decisions.

5 - The student will state two decisions he made in which he was punished.

6 - The student will state two decisions he made in which he was rewarded.

7 - Given a problem, the student will, state two possible ways of solving it.

8 - The student will state three places he can find information regarding jobs performed by his family and neighbors.

9 - The student will explain how he can set goals.

10 - The student will state two goals, each requiring a different amount of time to attain, and identify these as a "short range goal" or a "long range goal."

DECISION MAKING

GRADE FOUR

The student recognizes that membership in social groups requires making decisions and that his interests and relationships with other people influence his decisions. He becomes aware of decision-making processes. He realizes that consequences are associated with making decisions. He identifies local sources of information.

1 - The student will identify decisions he made relative to his behavior,which were different, when he was with his peers.

2 - The student will identify two people who influence his decisions at home, at school, and with friends.

3 - The student will identify two factors, other than people, that influence his decisions.

4 - Given specific problem statements, the student will, identify the information given and what the problem to be solved is.

5 - The student will identify three factors that limit his choices.

6 - The student will identify at least three componants that make up a decision.

7 - The student will state one example of a situation requiring a decision and a situation not requiring a decision.

8 - The student will state how his personal characteristics influence decisions.

9 - The student will state the relationship between a decision and its' consequences in terms of cause and effect.

10 - The student will state one short range goal and one long range goal which are related.

DECISION MAKING

GRADE FIVE

The student recognizes that making decisions is necessary to satisfy personal interests. He recognizes that personal characteristics are related to worker functions and influence career decisions. He becomes aware that emotions, values, and information are critical factors in decision making. He gathers, organizes, and relates information on a specific occupation.

1 - The student will state how making decisions is required to meet personal goals, and satisfy personal interests.

2 - The student will identify four personal characteristics and state how these could influence his goals and future career decisions.

3 - The student will obtain information about five jobs which interest him and seem related to his personal characteristics.

4 - The student will state five questions he has about three jobs and identify four sources of infromation to be used in obtaining an answer.

5 - The student will identify at least two new decisions he has to make this year in relation to last year.

6 - The student will state the relationship between his decision and the effect it has on the behavior of others.

7 - The student will state how his peers influence his decisions.

8 - The student will state an example of a decision which was impulsive as compared to planned.

9 - Given a set of situations requiring decisions, the student will, identify the risks involved in making the decision.

10 - The student will describe how a decision made today could affect a decision to be made tomorrow.

DECISION MAKING

GRADE SIX

The student understands how personal interests and characteristics influence career decisions. He is able to respond to questions related to career preference. He recognizes problem solving as a skill and that his feelings and previous decisions influence his decision-making behavior.

1 - As a member of a group, the student will, state how having personal goals requires decisions relative to group goals.

2 - The student will investigate answers to questions about worker functions, worker traits, and worker experience.

3 - The student will state three factors that increase his influence and participation in decision making.

4 - The student will describe the role of feelings in making decisons.

5 - The student will describe the influence his interests, skills, aptitudes, physical characteristics, and educational attainment have on his decisons.

6 - The student will state the influence that at least three groups have on his decisions.

7 - The student will identify alternative routes in which a career related question can be answered.

8 - The student will identify at least two decisions and the consequences associated with each.

9 - The student will identify at least five personal goals in order of priority.

10 - The student will state the relationship of previous decisions, present decisions and future decisions.

DECISION MAKING

GRADE SEVEN

The student explores career clusters in relation to his interests. he understands that personal values and characteristics influence decision making. He gathers and organizes information in order to respond to questions regarding career exploration. He determines a tentative course of study for grades nine through twelve in conformance with a tentative career choice.

1 - The student will identify a perference for a career cluster based upon his interests and personal characteristics.

2 - The student will relate his long range goals to a career cluster.

3 - The student will state a difference between career awareness and career exploration.

4 - The student will identify the componants that make up a responsible decision.

5 - The student will identify at least six factors which influence his decisions.

6 - The student will state examples of responsible and irresponsible decisions in terms of consequences to the decision-maker and others.

7 - The student will describe decisions he has made in the past which have affected him negatively and positively.

8 - The student will identify the single, most important, factor which influence his decisions.

9 - The student will identify a long-range goal, and state the decisions that must be made to reach it.

10 - The student will identify a tentative career choice, and state when he must make decisions regarding education, training and preparation for entry into the career.

DECISION MAKING

GRADE EIGHT

The student becomes aware that establishing priorities among his values requires making decisions. He recognizes the factors that influence his career-related or educational choices. He recognizes decision-making skill in problem solving and making tentative choices regarding long-range career interests.

1 - The student will state how the establishing of prior[illegible]es relate to his values, and requires making decisions.

2 - The student will identify the educational alternatives available to him relative to his tenative career choice.

3 - The student will identify at least ten sources of information and describe the nature of the information available from each source.

4 - The student will identify processes in his decision making which would indicate that his decisions are responsible ones.

5 - The student will identify the factors that influence his career related or educational choice.

6 - The student will identify the possible future decisions he will have to make based upon his tentative career choice.

7 - The student will describe why planning is important in the attainment of goals.

8 - The student will state how changes in career attributes such as requirements,conditions, rewards could influence change in a long range career goal.

9 - The student will identify similarities in a decision making process and a problem solving process.

DECISION MAKING

GRADE NINE

The student recognizes that occupational choice requires decisions related to personal values. He reexamines past decisions regarding tentative career choices in terms of new information and adjusts his goals accordingly. He analyzes the influence of other people on his career choices. He continues to gather occupational and personal assessment data.

1 - The student will state how the establishing of priorities relates to his values, and requires making decisions.

2 - The student will identify two people who influence his decisions at home and school.

3 - Given specific problem statements, the student will identify the information given and what the problem is to be solved.

4 - The student will identify three past experiences that have influenced his tentative choice of careers.

5 - The student will state how his personal characteristics influence decisions.

6 - The student will state three sources where he can obtain information pertaining to career choices that might be of interest to him.

7 - The student will state how his peers influence his decision toward his doing things.

8 - The student will state an example of a decision which was impulsive as compared to planned, and the effect related to each decision.

9 - The student will identify a tentative career choice, and state when he must make decisions regarding education, training and preparation for entry into the career.

10 - The student will state his relationship between emotions and decision making ability.

DECISION MAKING

GRADE TEN

The student understands that the attainment of goals involve decisions. He applies decision-making skills to career possibilities, recognizing that external forces have influence. He recognizes school courses and work experiences that will prepare him for specific career areas.

1 - The student will make a tentative plan for attaining his long-range career possibilities and state the requirements to achieve them.

2 - The student will identify five sources of information pertaining to careers.

3 - The student will state the school courses and work experiences that will prepare him for his career choice.

4 - The student will state three possible forces, both in and out of school, which might influence his career decision.

5 - The student will state how career attributes such requirements, conditions, rewards, and characteristics influence decisions about careers.

6 - The student will identify alternatives consistent with his goals and state steps to implement a course of action.

7 - The student will identify three considerations that have caused a change in his choice of careers.

8 - The student will identify the components that make up a responsible decision.

9 - The student will identify the single, most important, factor which influences his decisions.

10 - The student will identify a tentative career choice, and state when he must make decisions regarding education, training and preparation for entry into the career.

11 - The student will identify possible future decisions he will have to make regarding his tentative career choice.

DECISION MAKING

GRADE ELEVEN

The student state his goals and examines what decisions are required to attain them. He considers new sources of occupational information and applies decision-making skills to a consideration of career goals. He analyzes how career characteristics, such as requirements, work conditions, rewards, and worker functions influence career decisions.

1 - The student will state how changes in career attributes such as requirements, conditions, rewards could influence change in his long range career goal.

2 - The student will state his goals and explain his plans for the attainment of these goals.

3 - The student will identify at least ten sources of occupational information and describe the nature of the information available from each source.

4 - The student will identify factors that could influence his career decision.

5 - The student will list the steps needed to implement a course of action in pursuit of his goals.

6 - The student will identify the possible future decisions he will have to make based upon his tentative career choice.

7 - The student will identify similarities in a decision making process and a problem solving process.

8 - The student will state at least two reasons for his career choice.

9 - The student will state how certain decisions can affect his life and life-style.

10 - The student will state the relationship between personal goals and career goals.

11 - Given a career related goal, the student will describe two alternative courses of action which could be taken to attain the goal.

DECISION MAKING

GRADE TWELVE

The student develops a plan related to his long-range goals. He recognizes the need for flexibliity in the planning process and the need for current information, evlauations, and possible revision. He synthesizes and evaluates personal goals and values in confirming his career plans.

1 - The student will state how his personal goals are part of making career decisions.

2 - The student will state how he successfully made decisions relating to personal goals.

3 - The student will state tentative decisions relating to long-range career possibilities.

4 - The student will identify resource information and sources used in making career decisions.

5 - The student will complete a resume of personal data and indicate job placement centers where he could register for employment.

6 - The student will state any differences between the new and old goals and plans.

7 - The student will state the steps necessary to be taken to implement a course of action needed to attain his goals.

8 - The student will state the reasons for flexibility in a decision-making process.

9 - The student will indicate factors influencing his career choice.

10 - The student will state immediate, intermediate, and long-term effects of decisions on himself, family, and society.

BEGINNING COMPETENCY

KINDERGARTEN

The student develops skills in discriminating among concrete objects, and manipulating simple tools. He becomes aware that steps are involved in completing tasks and the need for safety in the use of simple tools.

1 - The student will identify the parts of a disassembled toy.

2 - Given a task, the student will state what he has to do.

3 - The student will identify two hand tools and demonstrate their use.

4 - The student will state one safety rule in the use of tools.

5 - The student will identify one tool used by his teacher.

BEGINNING COMPETENCY

GRADE ONE

The student becomes familiar with basic tools and materials used to construct simple projects. He becomes aware of tools and equipment used every day in his home. He becomes aware of the importance of safety and the need to properly care for tools and materials.

1 - Given a project to construct, the student willl identify the tools and materials necessary for its construction.

2 - The student will identify at least three tools used everyday in his home.

3 - The student will identify at least two tools he has seen used at school.

4 - The student will state the importance of safety in using tools.

5 - The student will identify one safety technique associated with his use of tools.

6 - The student will state why it is important to properly care for tools and materials.

BEGINNING COMPETENCY

GRADE TWO

The student becomes familiar with basic tools and the uses of each. He begins to recognize that the use of tools requires skills and that skills develop over a period of time from simple to complex. He takes responsibility for tools, equipment, and materials used in school. The student realizes that tools can be used for communication and the extension of the senses.

1 - Given a set of pictures illustrating eight basic tools, the student will describe the use of each.

2 - The student will identify the tools he has used this year.

3 - The student will identify a tool with which he has become more proficient, and state why he is better able to use that tool.

4 - The student will identify two tools that could be used together.

5 - The student will clean and put his tools away in their assigned places.

6 - The student will return unused materials to their assigned place.

7 - The student will identify a device which extends a persons speaking, hearing, and seeing capabilities.

BEGINNING COMPETENCY

GRADE THREE

The student becomes aware that some tasks require the use of specially designed tools, equipment and materials. The student develops skills in the sequencing of tasks, locating and organizing of materials and information, and the practical application of tool processes. The student realizes that tools are necessary for acquiring food, shelter and clothing. He demonstrates safety habits at work and play, and continues to develop physical skills and coordination.

1 - The student will state the tools and materials necessary to complete a given task.

2 - The student will state the difference between a hand and power tool which are similar in use.

3 - Given a listing of tools, materials and fastening devices, the student will match the tools with the appropriate fastening devices. The student will select the appropriate fastening devices for wood and metal.

4 - The student will identify three tools used for "cutting."

5 - Given a job to do, the student will complete the job and identify sequentially the tasks performed.

6 - The student will demonstrate practical use of tools in completing tasks.

7 - The student will identify at least two tools associated with the acquisition of food, shelter, and clothing.

8 - The student describes the relationship between tools and the satisfaction of basic needs.

9 - The student states, and demonstrates, safety habits he has relative to his use of tools.

BEGINNING COMPETENCY

GRADE FOUR

The student recognizes that the efficiency of task completion may be enhanced with the use of specially designed tools and different materials. He becomes aware that responsibility levels increase with the complexity of the tools being used. He continues to develop safety habits and physical skills commensurate to his maturity.

1 - The student states how tools help people in task completion.

2 - The student discusses the need for and use of power tools.

3 - The student will state the advantage and disadvantage in the use of power tools.

4 - The student identifies two tools associated with the joining of metal to metal.

5 - The student identifies at least five tools used by two different workers.

6 - The student will identify at least three materials that could be used for the completion of a project.

7 - The student will state a reason why certain materials could be used for specific projects.

8 - The student will state how the use of power tools require specific safety precautions, which do not pertain to hand tools.

9 - The student describes the physical skills required for the use of specific tools.

10 - The student will state how tools extend his physical capabilities in terms of ability and strength.

BEGINNING COMPETENCY

GRADE FIVE

The student develops techniques for the organizing of materials, tools and the sequencing of tasks necessary for the completion of a job. He develops critical thinking skills and is able to determine the tools and materials necessary for the efficient completion of a task. He also associates specific tools with certain tasks. He realizes the importance of muscular coordination and safety for the proper use of tools.

1 - Given a job to do, the student will identify, and obtain, the tools and materials necessary, and state the tasks, in proper sequence, that must be done to complete the job.

2 - The student will state one reason for his preference of using one tool over another.

3 - The student will identify tools associated with the cutting and joining of at least two different materials.

4 - The student will identify tools which were commonly used in 1776 that are not commonly used today.

5 - The student will state how power is utilized to make tool process more efficient.

6 - The student will identify at least two tools and materials related to "finishing."

7 - The student will state the sequencing of tasks as they relate to the finishing of a wood project.

8 - The student will identify at least ten basic tools that should be found in a hometool box.

9 - The student will identify, by name, at least two types of hammers, screwdrivers and saws.

10 - The student will describe the importance of muscular coordination in the use of tools.

11 - The student will identify at least two safety devices used by each of ten stated workers.

BEGINNING COMPETENCY

GRADE SIX

The student becomes aware of the need for resources and recognizes limiting factors which must be considered in setting task objectives. The student becomes aware that certain tools are used at different work locations. The student realizes that technology and tools has enabled man to extend his capabilities. He refines his knowledge of tool use. He recognizes the cognitive and psychomotor competency needed to use tools, equipment, and materials effectively and safely.

1 - The student will identify at least three resources needed for the completion of a job.

2 - The student will state the limiting factors associated with the completion of a task in a given situation.

3 - The student will identify at least two tools peculiar to at least three different work locations.

4 - The student will state the relationship between technological advancements, and tool design and use.

5 - The student will describe the effect technology and tools have had in man's capability to do a job.

6 - The student will identify at least two tools associated with the following processes: parting, casting, machining, joining, and finishing.

7 - The student will state two differences between stationary and portable tools.

8 - The student will state why certain competencies are required for proper tool usage.

9 - The student will state three procedures necessary to maintain tools in good working condition.

10 - The student will describe the importance of safety in using tools.

BEGINNING COMPETENCY

JUNIOR HIGH

GRADE SEVEN

The student explores problem-solving situations in career areas, identifying objectives of assigned tasks, and organizing sub-task sequences. He applies a variety of communication and organization skills to tasks. He recognizes the relationship between technology, occupational environment, and level of responsibility. He develops a component of career entry-level capability and becomes aware of the relationship between physical and occupational skills.

GRADE EIGHT

The student explores communication, organizational, and problem-solving skills necessary in selected career areas. Through an understanding of relationships among technology, environment, and responsibility, he identifies appropriate behaviors associated with completion of tasks. He realizes the need for tool use in completing certain tasks. He develops physical skills appropriate to selected career areas.

The following objectives, stated in A Suggested Planned Course In Industrial Arts, Pennsylvania Department of Education 1971, are appropriate for this element at the Junior High School level. Due to the structural diversity found in the technology labs from school to school. These objectives will be classified as follows: Visual Communications, Power and Industrial Materials, and should be selected as to their appropriateness for a given school unit. Objectives for Practical Arts, also appropriate for this level, were not completed at the time of this writing, but will be included in the future.

VISUAL COMMUNICATIONS

The visual communications sequence of the suggested planned program is designed to acquaint the student with technology that man has developed to assist him in visually communicating attitudes, ideas and information from one person to another.

This sequence does not attempt to develop highly specialized skills, but it attempts to develop the student's understanding of how man has extended his ability to visually communicate.

SECOND LEVEL OBJECTIVES FOR VISUAL COMMUNICATIONS

The student will be able to:

1. Correctly define four basic reproduction processes orally or produce a simple sketch to illustrate each process.
2. Sketch an orthographic projection from an isometric drawing of an object.
3. Differentiate a negative from a positive film.
4. Properly expose, develop and print photographic film.
5. Identify and describe the differences between two basic bindery techniques.
6. Describe the differences between four finishing techniques.
7. Describe three methods of reproducing mechanical drawings.
8. Correctly name two different ways of storing drawings.
9. State four ways that society has benefited by visual communications.
10. State four ways that society has been negatively influenced by visual communications.
11. Differentiate a half tone from a line copy.

POWER

Power, as a content area of industrial arts, concerns itself with various energy forms, the matter from which they are derived, and the conversion of these energy forms into useful work. Consistent and experience-centered laboratory operations should be designed to clarify the function and application of all types of energy devices.

The following objectives are intended to be useful in suggesting general policy for curriculum development in grades seven and eight.

SECOND LEVEL OBJECTIVES FOR POWER

The student will be able to:

1. Describe various energy sources.
2. Discuss the historical development of energy sources.
3. Compare the various methods of converting energy source into useful work.
4. Differentiate between work and power as they relate to various applications.
5. Identify conservation practices related to the use of energy.
6. Identify pollution hazards and their control in relation to energy sources and their application.
7. Describe the various methods of power generation, transmission and control.
8. Operate and control generating, transmitting and converting equipment and their basic systems.
9. Safely use tools, machines, test and measure equipment related to power technology.
10. Demonstrate consumer competencies in the selection, use and care of various power related products.
11. Construct and assemble represented power devices.

12. Recognize and resolve problems related to power devices.
13. Identify his interests, abilities, career opportunities and leisure time activities available.
14. Apply knowledge in the field of mathematics, science, language arts and social science to the field of power technology.

INDUSTRIAL MATERIALS

Industrial materials as a content area of industrial arts embraces a study of the materials which lend themselves to production and construction, a study of the processes by which man has changed these materials and a study of man's creative effort to produce goods by organizing people, materials and processes. The following second level objectives reflect the behavioral outcomes expected to result from activities in industrial arts. The degree to which these are met are dependent upon student attitudes and capabilities, time and facilities available and the effectiveness of the teacher who is expected to further develop third level behavorial objectives based upon his knowledge of the students and the teaching situation.

SECOND LEVEL OBJECTIVES

The student will be able to:

1. Convey and follow technical instructions by using and interpreting proper terminology, drawings and sketches used in the production of material goods.
2. Identify major departmental structures in industrial organizations.
3. Discover interest, abilities and attitudes toward career choices by engaging in experience in the use of industrial materials.
4. Work both independently and cooperatively while exhibiting socially desirable behavior.
5. Explore, select and develop skills associated with industrial materials for use in leisure time pursuits.
6. Select and utilize the proper tools and equipment and involve a wide range of industrial processes to produce selected consumer goods for particular applications.

7. Exhibit consumer competency in the selection of manufactured and constructed goods.
8. Recognize and apply desirable learning experiences through problem solving while using interdisciplinary concepts and techniques.
9. Exhibit safe practices in the processing of industrial materials while using a variety of tools, machines and equipment and will relate these safety practices to use in the home, school and community.

BEGINNING COMPETENCY

GRADE NINE

The student gains proficiency in problem solving, communication, and mathematics as applied to selected career areas. He identifies information common to career areas and develops an entry-level capability for a specific career area. He demonstrates proficiency in physical skills and safety practices related to career areas.

1 - The student will be given a test with twenty career related math problems and be acquired to correctly answer the minimum of fifteen problems.

2 - The student will be given a list of twenty-five career related vocabulary words, and will be expected to state the meaning of the words with a minimum of twenty correct.

3 - The student will be given an occupational brief related to his career choice. He will read it and be asked to answer questions to determine his comprehensive.

4 - Students will list three possible career choices; go to the library and from various reference books, locate and organize technical information about these careers.

5 - After the student has located and organized technical information of his chosen career, he will present this information orally to his classmates and he will be able to answer or find the answer to questions that might be asked of him.

6 - The student will cite any hazards that might be associated with his career.

7 - The student will state any proficiency in physical skills that may be needed in his profession.

8- The student will state the limiting factors associated with the completion of a task in a given situation.

9 - The student will state the current technological advancements within his career choice and any new future technology.

10 - The student will state a reason for his preference of using specific types of equipment.

11 - The student will identify at least two pieces of equipment used within his career area.

BEGINNING COMPETENCY

GRADE TEN

The student develops proficiency in skills and knowledge sufficient for entering an occupational area. He applies problem-solving skills, applies observation skills to data collection, and understands the relationship of tools and specific tasks in self-selected career areas. He understands that the relative level of responsibility among persons can influence interpersonal and career relationships.

1 - The student will state what skills are required to accomplish a given task within his career area.

2 - The student will identify the uses of a variety of tools, equipment and materials needed in a stated business or industry.

3 - The student will state the proficiency required for the care and maintenance of various tools, equipment and materials.

4 - The student will state the safety practices that are appropriate for use within his career training field.

5 - Given a problem pertinent to his career, the student will state what skills will be required to solve the problem.

6 - The student will be given an article from a career-associated technical journal and will be expected to answer comprehensive questions with an 80% accuracy.

7 - The student will state the responsibliity required of a person in a supervisory position.

8 - The student will state how the levels of responsibility within a career cluster interact and affect the welfare of the employees and the business and/or industry.

BEGINNING COMPETENCY

GRADE ELEVEN

The student plans and executes a project, understanding that preparation, evaluation and replanning may be necessary during execution. He understands the physical aspect, safety, and various properties of tools and materials relative to accomplishment in a task area. He refines academic and vocational skills directly applicable to a job and understands that the relative level of responsibility influences his on-the-job relationships.

1 - The student will plan and submit a project that is related to his career preparation.

2 - The student will execute his plan and submit the finished product for evaluation by his instructor.

3 - After the plan has beem completed and evaluated by his instructor, the student will state how the plan might be improved. He will replan and submit his revised plan to the teacher for evaluation.

4 - To complete his project, the student will state how required interaction with others was needed.

5 - The student will state which textbooks, publications, periodicals, etc. were used in the completion of his project.

6 - The student will list the appropriate tools, equipment, and materials needed to perform various tasks in a particular career cluster.

7 - The student will identify procedures for maintaining the various tools, equipment and materials associated with a career area.

8 - The student will demonstrate safety as related to his career preparation program.

9 - The student will state the skills necessary for employment in the career area of his choice.

10 - The student will state how various levels of responsibility and specific jobs within his chosen career field can effect other personnel in the same field.

BEGINNING COMPETENCY

GRADE TWELVE

The student demonstrates mastery of career entry-level skills and an understanding of the future physical and academic requirements related to the career of his choice. He masters those interpersonal skills likely to be expected of him while looking for an after accepting a career entry job or opportunity for further education.

1 - The student will list eh outcomes of a given task.

2 - The student will specifiy resources required to perform the task and an outline of the procedures to be used.

3 - The student will demonstrate entry-level competency in the use of tools, equipment, and materials associated with his career choice.

4 - Given a situation, the student will state how he will handle interpersonal relations resulting from interaction with other people on a job.

5 - The student will state the relationship between responsibility and job levels with a career cluster.

6 - Given a technical journal, magazine or periodical relating to his potential or intended career, the student will write a comprehensive report on the article and its implications.

7 - The student will state how his skills in his field could be refined and improved so that he might better advance in his career field.

8 - In a role-playing situation, the student will demonstrate his ability to communicate with co-workers and supervisors.

9 - The student will list the minimum basic skills and requirements for job-entry level for his desired career.

10 - Given related math problems, the student will demonstrate, with no less than 80% proficiency, his mastery of computational skills.

EMPLOYABILITY SKILLS

KINDERGARTEN

The student performs simple tasks in individual or group settings. He becomes aware of the importance of following directions and the act that tasks may be completed in various ways. He relates information about his activities.

1 - The student will perform simple tasks in individual or group settings.

2 - The student will verbally relate information about what he is doing to his teacher.

3 - The student will describe his work activities at school.

4 - The student will demonstrate the ability to follow directions.

5 - The student will complete assigned tasks at school.

EMPLOYABILITY SKILLS

GRADE ONE

The student recognizes that some tasks are better performed alone than with others in a group. He recognizes the importance of listening and following oral instructions. He relates personal information and becomes aware of social skills appropriate to different situations.

1 - The student will describe the difference between working alone and working with others.

2 - The student will demonstrate the ability to listen and follow oral instructions.

3 - The student will verbally relate personal information about himself to his teacher and peers.

4 - The student demonstrates social skills appropriate to the classroom.

5 - The student will complete assigned tasks at school and at home.

EMPLOYABILITY SKILLS

GRADE TWO

The student recognized that his preference for certain activities is partially dependent upon his willingness to work with others. He becomes aware of the importance of attitudes and habits in performing assigned tasks. He describes increasingly complex information about himself and his activities. He applies social skills appropriate to different situations.

1 - The student will identify specific games and activities, participation in which, depends upon his willingness to work with others.

2 - The student will state his qualifications for tasks done at home and in school.

3 - The student will describe the importance of good work habits in performing assigned tasks.

4 - The student will verbally relate information about himself, as it relates to his activities, to his peers, and teacher.

5 - The student will demonstrate social skills appropriate to at least two different situations.

6 - The student will complete assigned tasks within a specified time period.

EMPLOYABILITY SKILLS

GRADE THREE

The student recognizes that supervision and cooperative effort make some tasks easier. He recognizes responsibility and the importance of completing assigned tasks. He develops skills necessary for receiving and carrying out task directions.

1 - The student will describe how adult supervision may help him accomplish tasks easier.

2 - The student will describe how cooperation on some tasks makes some jobs easier.

3 - The student demonstrates responsibility for completing assigned tasks, by completing them.

4 - The student will state why it is important to complete an assigned task.

5 - The student will demonstrate the ability to carry out task directions.

6 - The student will complete an assigned task over a period of three days.

EMPLOYABILITY SKILLS

GRADE FOUR

The student becomes aware of different styles of leadership and recognizes specialization within group work. He recognizes that a person's appearance and behavior affect the way others relate to him. He recognizes the importance of punctuality, responsibility, and following directions.

1 - The student will describe how at least two people give directions differently.

2 - The student will state how members of a particular group may complete a task by having each member specialize on a particular part.

3 - The student will state one difference between a social group and a task group.

4 - The student will describe differences in appearance relative to at least two situations.

5 - The student will keep a record of his work activities at home and at school.

6 - The student will describe the importance of punctuality as it relates to task completion.

7 - The student will demonstrate the ability to follow oral and written directions over a stated period of time.

EMPLOYABILITY SKILLS

GRADE FIVE

The student demonstrates that he can function in different task settings involving various combinations of data, people, and things. He recognizes the relationship between job completion, and task order. He becomes aware of the personal appearance, social skills, and work habits associated with certain jobs.

1 - The student will demonstrate that he can function in an individual or group setting.

2 - The student will state his performance for working in a group or individual task setting.

3 - The student will describe the relationship between job completion and the ordering of related tasks.

4 - The student will demonstrate the application of his qualifications to the selection and completion of a task.

5 - The student will state the importance of personal appearance, social skills, and work habits associated with set of stated occupations.

6 - The student will engage in and complete a task over a period of a week or more.

EMPLOYABILITY SKILLS

GRADE SIX

The student recognizes the implications of working with and without supervision. The student understands the advantages of selecting preferred tasks. He relates his achievements and interests to a wide variety of job settings. He becomes aware of skills, attitudes, and habits associated with employability.

1 - The student will state the implications of working with and without supervision in terms of personal responsibility and skills.

2 - The student will discuss the advantage of selecting tasks for which he has preference.

3 - The student identifies his achievements and interests relative to a variety of job settings.

4 - The student will verbally evaluate his home and school work activities.

5 - The student will discuss the relationship between skills, attitudes, and habits, and his employability.

6 - The student will complete all assigned tasks within a stated time period of more than a week.

EMPLOYABILITY SKILLS

GRADE SEVEN

The student recognizes a relationship between the responsibilities assumed in directing and being directed. He recognizes a relationship between work interest and adjustment ability. He understands the effect of a person's appearance and behavior on the way others relate to him. He responds to job instruments and identifies job openings appropriate to his level of ability.

1 - The student will describe the difference in assumed responsibility in directing and being directed for a given job.

2 - The student will state how different work situations require personal adjustment.

3 - The student will discuss his ability to adjust to differing situations relative to his interests.

4 - The student will state how adjustment relates to individual and group work settings.

5 - The student will describe how a person's appearence and behavior affect the way others relate to him.

6 - The student will identify job openings appropriate to his level of ability.

7 - Using personal data, the student will complete the requirements for securing a job.

8 - The student will describe the importance of attitudes relative to employability.

9 - The student will engage in and complete an assigned task requiring at least a month to do.

EMPLOYABILITY SKILLS

GRADE EIGHT

The student assesses the reality of his work preference, completes simulated job-application forms and responds coherently to interview questions. He recognizes that both independent and group activities may be necessary for accomplishing tasks and refines the social and communication skills necessary for employability.

1 - After stating a preference for doing a specific task, the student will describe his interests and attainments relative to the task.

2 - The student will state how his interests and attainments relate to a tentative occupational choice.

3 - The student will accurately state the educational and economic requirements of a tentative occupational choice.

4 - The student demonstrates an ability to complete a job application form.

5 - The student will respond to interview questions in terms of interests, aptitudes, and qualifications related to a specific job.

6 - The student states how independent and group activities may be necessary in completing a task or job.

7 - The student demonstrates social, quantitative and communication
s skills necessary for employability.

8 - The student will engage in and complete an assigned task on a quarterly (ten week) basis.

EMPLOYABILITY SKILLS

GRADE NINE

The student recognizes the difference between entry-level jobs and jobs which have career ladders. He recognized the relationships between job and social-oriented temperaments. He collects and organizes information related to his employability in selected occupational areas and demonstrates skills basic to career placement.

1 - The student will relate information about himself in selecting, learning or performing duties.

2 - The student will relate his qualities, aptitudes and interests to jobs and careers in the outside world.

3 - The student will evaluate his home and school work and make a chart or graph indicating his progress in basic subjects over the past three years.

4 - The student will list the work habits and attitudes necessary to enter an occupation in the career area of his choice.

5 - The student will state the relationship between employability and appearance.

6 - The student will complete a letter of application and complete an application form.

7 - In a role-playing situation, the student will act the part of an applicant having an interview with a prospective employer.

8 - The student will consult "classified ads" in a newspaper and list any positions for which he would hope to obtain in the future.

9 - The student will list any skills that he will have to acquire in order to be acceptable for employment into postions found in the newspaper.

EMPLOYABILITY SKILLS

GRADE TEN

The student recognizes that some tasks require more responsibility due to safety and cost factors, and identifies jobs he feels he can supervise. He selects potential occupations which he is interested in pursuing and refines skills basic to career placement. He communicates an accurate personal description when responding to job survey instruments as part of a simulated job-seeking task.

1 - The student will relate information about himself in selecting, learning about and/or performing duties.

2 - The student will complete a simulated or real job-seeking task, listing steps that he has taken in pursuit of a job.

3 - The student will complete a personal data sheet and fill in an application for employment.

4 - The student will participate in a role-playing situation, acting out the part of an aspiring applicant.

5 - The student will list skills necessary for his career choice.

6 - The student will list the training he needs to attain proficiency in the skill requirements of his career choice.

7 - The student will identify the requirements needed for a supervisory position.

8 - The student will state how appearance is related to the securing of a position in his field.

9 - The student will state how punctuality, responsibility and following directions might effect his success in a job.

10 - The student will state how safety on the job is the responsibility for all workers and employees.

EMPLOYABILITY SKILLS

GRADE ELEVEN

The student recognizes the advantages, disadvantages and responsibilities of his career choices. He evaluates his chances for success based upon knowledge of the career area and his personal characteristics. He understands the need to cope constructively with insecurity on a new job or the failure to obtain a job.

1 - The student will state the advantages and disadvantages of his career choice.

2 - The student will state the limitations of working with and without supervision.

3 - The student will make a list of his personal characteristics and state how each will relate or effect success in his chosen area.

4 - The student will make a list of his career related subjects and state the degree of success he has had with them.

5 - The student will analyze both above lists and then state the areas in which he needs improvement in order to attain his career goal.

6 - The student will state his reactions to a job rejection, and identify the steps he must take for acceptance into a job.

7 - The student will define the meaning of confidence and how it relates to the securing of a positon.

8 - The student will prepare his job resume and complete applications for employment.

9 - The student will participate in a simulated job interview.

EMPLOYABILITY SKILLS

GRADE TWELVE

The student meets the requirements necessary for career entry. He applies personal data to potential career situations and communicates effectively with prospective employers.

1 - The student will state the necessary skills required for his career choice.

2 - The student will state the required tools and/or equipment needed for his job selection.

3 - The student will state several job openings for which he is qualified.

4 - The student will write letters of applications to perspective employers whose names he has obtained from the 'classified ads' and/or school personnel.

5 - The student will prepare a resume, presenting an accurate description of his education, training and experience.

6 - The student will simulate a phone conversation with a prospective employer requesting a job application and interview for employment with his specific area.

7 - The student will list the questions that he will be expected to answer during a job interview.

8 - The student will list the questions that he might ask of a potential employer at a job interview.

9 - The student, along with another student of his class, will simulate a job interview, taking either role, and evaluate each other's behavior.

10 - The student will state the relationships and responsibilities of directing and being directed in job-related tasks.

ATTITUDES AND APPRECIATIONS

KINDERGARTEN

The student becomes aware of task completion and simple associated rewards. He becomes aware of some of the ways he differs from others.

1 - The student will state the importance of completing a task.

2 - When working in a group, the student will, identify what two other students are doing relative to a given task.

3 - The student will identify one similarity and one difference in another person relative to himself.

4 - The student will identify two feelings he has.

5 - The student will state why it is important to share things.

ATTITUDES AND APPRECIATIONS

GRADE ONE

The student becomes aware that completion of a task may benefit others. He recognizes differences in others and becomes aware of the need for tolerance. He recognizes the rights of others. He begins to recognize the importance of certain things and people relative to his well being.

1 - The student will state how the completion of a task may benefit himself and others.

2 - The student will state how other people give recognition for completion of assigned tasks.

3 - The student will identify two differences existing between himself and another peer.

4 - When working in a group (or with another person) on an assigned task, the student will, describe how each student is cooperating with each other.

5 - The student will identify one right that pertains to himself and others.

6 - The student will state the importance of his parents to him.

ATTITUDES AND APPRECIATIONS

GRADE TWO

The student recognizes his own and others' positive response to task completion. He demonstrates tolerance toward the differences in other people and shows acceptance of them through group experiences.

1 - The student will state his feelings relative to the completion of a school activity.

2 - The student will identify two behaviors of another person with the acceptable completion of a task.

3 - Given a group task, the student will, identify his responsibility towards the completion of the task.

4 - The student will state his rights, within school, relative to the rights of others.

5 - The student will describe how he shows acceptance of others in group activities.

6 - The student will identify the importance of his teacher to him.

ATTITUDES AND APPRECIATIONS

GRADE THREE

The student understands that a job well done is regarded by self-satisfaction and recognition from others. He identifies types of rewards workers receive for performing occupational tasks. He learns things about other prople which may help him develop as a person.

1 - The student will state the value in completing certain tasks, ralative to his feelings.

2 - The student will identify a task he has completed, and state why he is proud of completing the task.

3 - The student will identify three types of recognition received by workers for performing occupational tasks.

4 - The student will identify two behaviors demonstrated by others that he considers "good."

5 - The student states three things, that are done by other people, that help him in his everyday living.

6 - The student will identify two workers who are important to his well being.

7 - The student will identify how someone else successfully completed a task, identical to his own, in a different way.

ATTITUDES AND APPRECIATIONS

GRADE FOUR

The student recognizes that others rely upon him to complete a task. He understands the necessity of accepting persons with differences. He shows interest in the individual skills and abilities of others.

1 - Given a group activity the student will state how others rely on him to complete his task.

2 - The student will state how tolerance of others' differences is important in task completion.

3 - The student will identify at least three tasks he considers important to complete.

4 - The student will state two ways in which he is able to know if a job has been well done.

5 - The student will identify at least two skills demonstrated by another person that he would like to learn.

6 - The student will rank order a list of occupations in term of importance to him.

ATTITUDES AND APPRECIATIONS

GRADE FIVE

The student becomes aware that relationships between himself and others result from the performance of a job. He accepts persons with individual differences and recognizes their rights and responsibilities. He responds positively to others persons different than himself while working with them. He begins to recognize that people have different values.

1 - The student will state the relationship between himself and others during the performance of a job.

2 - The student will state the reason for his feelings towards others in a group task setting.

3 - The student will identify persons different from himself and state rights and responsibilities common to himself and others.

4 - In the performance of a group task, the student will identify at least two things done by another person.

5 - The student will state how he and others have helped in the completion of a task.

6 - The student will identify three things important to him.

7 - The student will identify three things, he feels are, important to a friend.

8 - The student will identify two behaviors exhibited by a friend that he tolerates.

ATTITUDES AND APPRECIATIONS

GRADE SIX

The student recognizes that in accepting a task, he also accepts certain responsibilities. He becomes aware of individual differences as they relate to values and he understands the rights and responsibilities of others.

1 - Given a choice of tasks to do, the student will choose one and state his responsibilities for completing the task.

2 - The student will identify two tasks he has completed that, he feels were well done in terms of self satisfaction and recognition received from others.

3 - The student will state how others rely on him for the completion of various group tasks.

4 - The student will identify at least two differences in the behavior of another person in terms of things that the other person considers important.

5 - The student will identify at least two settings in which people with observable differences are working together.

6 - The student will state how the rights and responsibilities of others are identical to his own.

ATTITUDES AND APPRECIATIONS

GRADE SEVEN

The student becomes aware of the importance of a job to himself and others. He recognizes that the fulfillment of responsibility for an assumed job yields rewards. He understands that tolerance for the differences of other people does not require acceptance of their values.

1 - The student will identify a job that is important to himself and others.

2 - The student will state how the fulfillment of the responsibility for an assumed task yields rewards.

3 - The student will identify ways he can be rewarded for doing a job in terms of self-satisfaction and recognition from others.

4 - The student will identify one good thing he now knows about another person as a result of working at a group task.

5 - The student will identify a behavior exhibited by a friend that he would not do.

6 - The student will state how there can be a working relationship between persons who have physical differences or differences of opinions.

ATTITUDES AND APPRECIATIONS

GRADE EIGHT

The student recognizes relationships between himself and others resulting from the performance of a job and understands that others rely upon him to complete an accepted assignment. He recognizes the different values held by others and that individual differences provide opportunities for personal growth and self development.

1 - The student will state the relationship between himself and three others as a result of working together.

2 - The student will express his feelings about his relationships with others, and state objective reasons why he feels that way.

3 - The student will identify behaviors in a person he likes, and compare them to the behaviors of a person who is disliked.

4 - The student will identify three persons who have helped him in the completion of a job.

5 - The student will identify three persons who he has helped.

6 - The student will state a reason for helping other people.

7 - The student will identify differences and similarities in values held by himself and others.

8 - The student will state how he can learn from differences in other people.

ATTITUDES AND APPRECIATIONS

GRADE NINE

The student identifies relationships between himself and others resulting from the performance of a job and understands that a job well done is rewarded. He recognizes that individual differences add to his personal growth and development and becomes aware of the psychological variables involved in interpersonal relationships. He recognizes the cultural and socio-economic aspects of individual differences.

1 - Given a task, the student will state what responsibilities he will have both to himself and to others.

2 - As a result of the given task, the student will state the possible relationship between himself and others resulting from the performance of the task.

3 - The student will make a list of the differences between himself and two other individuals in his class.

4 - The student will state the effects of the differences between himself and the other two individuals working on a job.

5 - The student will state the responsibility he has to both himself and the other individuals in any given situation.

6 - The student will state why it is important to have the proper skills and abilities for specific job situations.

7 - The student will state how cultural and socio-economic aspects will effect individual differences.

8 - The student will state how both psychological and physical variables are involved in interpersonal relationships between individuals and groups.

ATTITUDES AND APPRECIATION

GRADE TEN

The student understands the value of a job to himself and others and analyzes the value of rewards associated with job performance. He understands that individual differences often contribute to positive relationships.

1 - The student will identify relationships between himself and others resulting from the performance on a job.

2 - The student will define the word tolerant, and explain its relationship in dealing with others.

3 - The student will state what rewards beside monetary can be achieved by a job well done.

4 - The student will explain what the needs and responsibilities of others mean to him.

5 - The student will state how individual differences are important not only to him -- but to social, economic and technological areas.

6 - The student will state what psychological and physical variables are involved in the interpersonal relationships between individuals.

7 - The student will state how cultural and socio-econimic aspects effect individual differences.

8 - The student will state how intolerance can affect a relationship.

9 - The student will state how positive relationships can be created out of individual differences.

ATTITUDES AND APPRECIATIONS

GRADE ELEVEN

The student recognizes the pattern of values behind job-associated relationships and understands the interdependent nature of these relationships. He can discuss individual differences and argue the right of others to hold attitudes and values different from his own. He understands the psychological variables involved in interpersonal relationships.

1 - The student will state how individual differences and a person's rights are related.

2 - The student will state how individual differences effect a person's capability to assume responsibility.

3 - The student will state and defend an individual's right to hold attitudes and values different from his own.

4 - The student will state how psychological and physical differences will effect an interpersonal relationship.

5 - The student will state why it is important for co-workers to have a good relationship on the job.

6 - The student will state what he can learn from the differences of other individuals.

7 - The student will state other rewards, besides monetary, that are derived from a job well done.

8 - The student will state what a lack of understanding might have on a business, and/or a job, and upon society as a whole.

9 - The student will list ten successes that he has achieved.

10 - The student will identify at least two behaviors which influence success in a career.

ATTITUDES AND APPRECIATIONS

GRADE TWELVE

The student utilizes job-associated relationships to the mutual benefit of his associates and himself and values recognition for job accomplishment. He works effectively with others who differ from him in various ways and understands how these differences relate to progress in social, economic, and technological areas.

1 - Being assigned a task, the student will state what responsibility he has to himself and to others for its' completion.

2 - The student will state how lack of responsibility within an individual can effect society as a whole.

3 - The student will state how his satisfactorily completed task could effect others.

4 - Besides monetary rewards, the student will state what other kinds of rewards can be accrued from an excellent performance.

5 - The student will state how progress can be brought about in social, economic and technological areas, through individual differences.

6 - The student will state how different skills and behaviors can contribute constructively to our environment.

7 - The student will state how positive or negative interaction with others can effect a job.

8 - The student will state why it is necessary to cooperate with others on a job.

9 - The student will state why different backgrounds or socioeconomic situations should not have any effect upon personnel interrelationships on and off a job.

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THE JAMES RUSSELL LOWELL SCHOOL'S

MULTI-IMAGE EXPERIENCE ROOM

AND

ITS APPLICATION TO CURRICULUM

By

RALPH R. PANDOLFI

Career Education Instructor
and the Developer of Lowell's
Experience Room

Editor
SHIRLEY Z. SHERMAN
Principal of the J. R. Lowell School

April 1976

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INTRODUCTION

Modern technology has given us exciting ways to present information and, to a limited degree, the educational community has made use of this technology to facilitate learning. Films, slides, filmstrips and television are obvious examples of audio-visual media which can help the teacher to do a better job. Another less well-known but very exciting medium is the multi-image facility — a system of projectors and a large screen (plus audio) which permit the projection of two or more images at the same time. Educators who have seen the small number of these facilities in existence have been highly impressed with their potential usefulness in enhancing the learning process and, among many other things (when a wide angle large screen is used), simulating environments.

Why then are there so few of these facilities? Sadly, educators generally are not aware of them; those who are, often believe such facilities would be too expensive.

This paper describes a multi-image facility at the J. R. Lowell School* in Philadelphia which demonstrates the unique capability of these systems and the fact that they can be built in an ordinary large classroom at a relatively low cost.

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*Lowell is a kindergarten to eighth grade school with a student population of about 650.

BACKGROUND

During the 1974-75 school year, the students of Ralph R. Pandolfi, a career education and industrial arts teacher at the J.R. Lowell School in Philadelphia, built a 180° multi-image projection system which Mr. Pandolfi had designed. It was built in an unused classroom (figure 1) and is called an Experience Room*. The work was done as part of the school's seventh grade curriculum in career education and industrial arts. The construction technique for the projection screen is similar to that found in the construction of frame houses (figure 2). Most of the work was done during regular school hours but some of it was also done during lunch, after school and on school holidays.

In addition to doing most of the construction of the facility, the students, to a large extent, financed it through their labor. About two-thirds of the money for material and equipment was raised by the students; they made and sold decoupage wall plaques and lapel poster pins as part of role-playing activities in the simulation of a corporation. The students covered the floor of the room with carpet samples donated by two dealers. The cost of materials and equipment for the facility was approximately $1600. Since three of the six projectors are on loan** to the school, this figure does not include the cost of three projectors; consequently, the total cost of such a facility would be approximately $2500. Also, with the exception of a presentation on Lowell's career education model, pictures used with the system have been taken and paid for by the instructor.

*The name as well as the basic concept was borrowed from the McDonald School in Warminster, Pa., which has a 360° multi-image facility.

**Arranged by Stanley Cohen (the obtaining of the borrowed projectors was crucial to the completion of the facility).

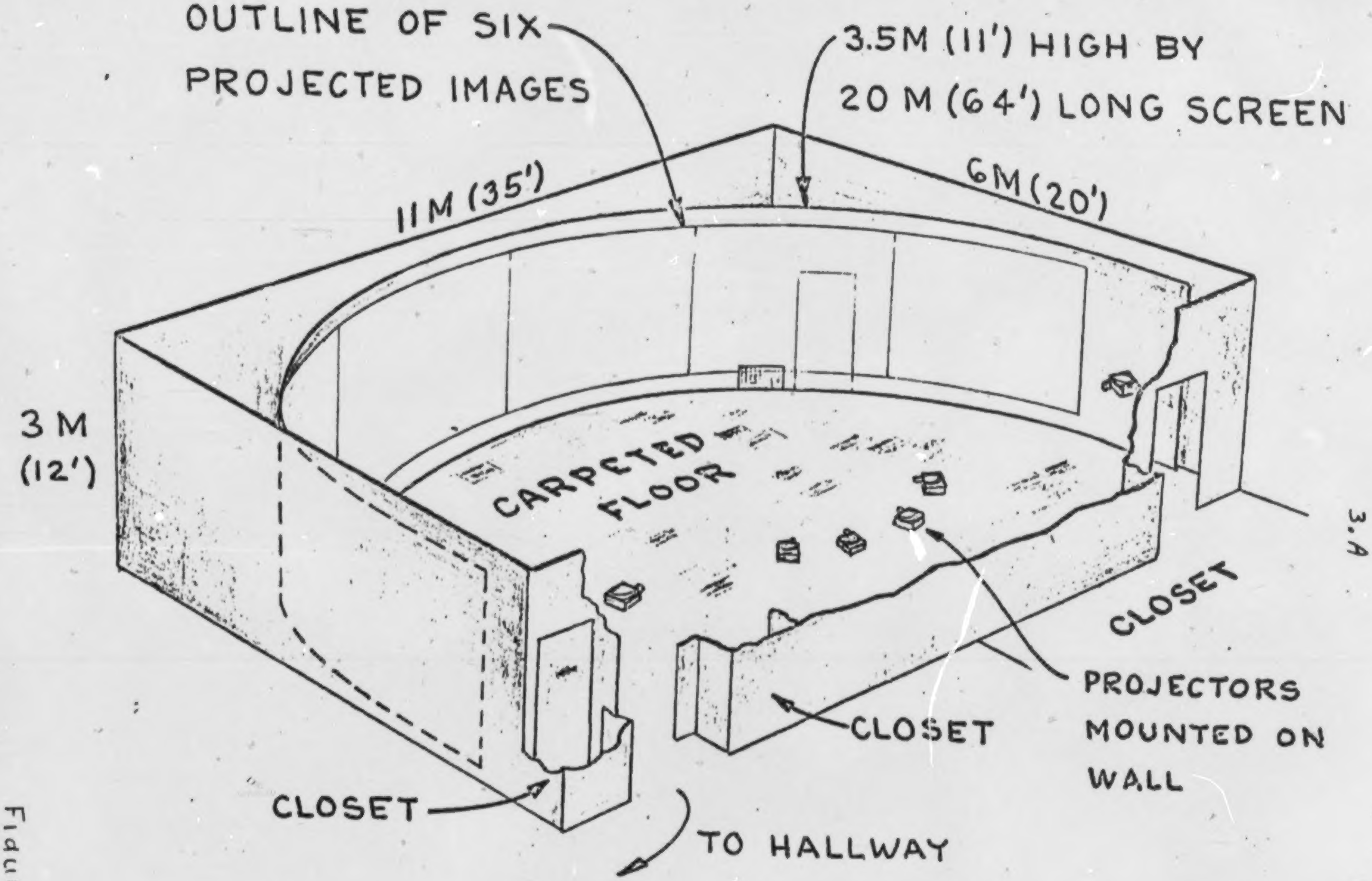

OUTLINE OF SIX PROJECTED IMAGES
3.5M (11') HIGH BY 20 M (64') LONG SCREEN
11 M (35')
6M (20')
3 M (12')
CARPETED FLOOR
CLOSET
CLOSET
CLOSET
PROJECTORS MOUNTED ON WALL
TO HALLWAY

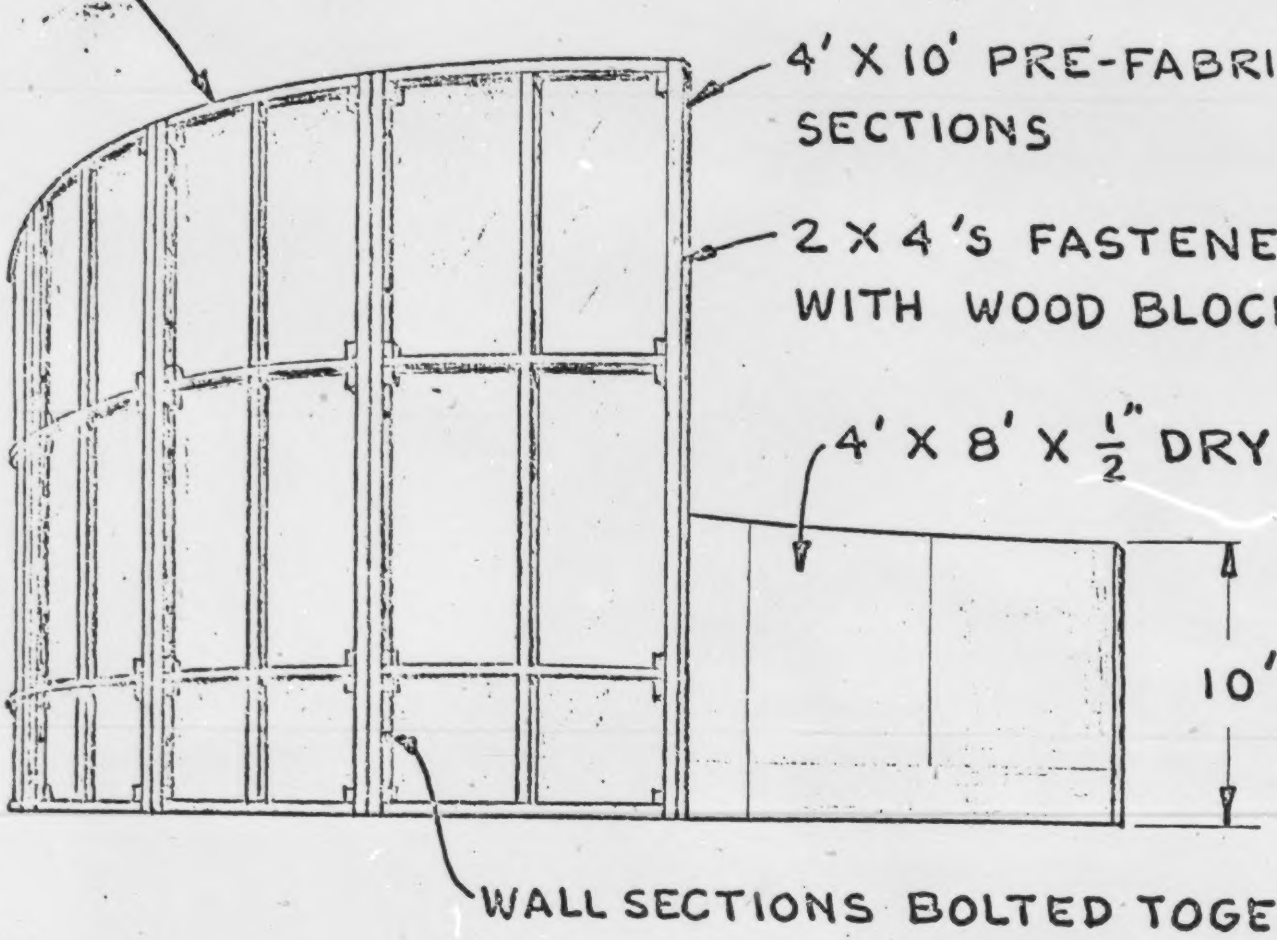
Figure 1.

LOWELL'S EXPERIENCE ROOM

3.A

Figure 2.

4.A


4'SECTIONS CUT TO SCREEN RADIUS ON BAND SAW
4'X 10' PRE-FABRICATED SECTIONS
2 X 4'S FASTENED TOGETHER WITH WOOD BLOCKS & SCREWS
4' X 8' X $\frac{1}{2}$" DRY WALL
10'
WALL SECTIONS BOLTED TOGETHER

FRAMING FOR DOORS AND SPEAKERS NOT SHOWN

CONSTRUCTION DESIGN OF PROJECTION SCREEN

It is important to stress that the facility could not have been built without the support, involvement and encouragement of the school's principal, Shirley Z. Sherman, who backed the project from its inception by providing suggestions, ideas and administrative, financial and moral support.

The system has been very well received by the faculty, students, parents, home and school association and community. Educators who have visited the facility have made favorable comments; such as,

"It's like being there!"

"... the most impressive thing I have seen in fifteen years of teaching!"

"Fantastic!"

"It's mind boggling!"

APPLICATIONS TO CURRICULUM

The system (figure 3) may be used to simulate any environment for which a six-slide panoramic has been prepared. The audience views a scene of which they feel a part. High quality audio equipment produces music and sounds appropriate to the simulated scene. So, for example, when a wooded area is seen, the sounds of the woods are heard. Scented aerosol sprays with the odor of the woods are available to add to the realism. The facility, then, can be used to take students on all kinds of realistic "trips" to any micro- or macro-place in the universe, from the inside of an atom to a distant galaxy and backward and forward in time. And, of course, trips include down-to-earth places which would normally be out of the geographical or financial reach of a school. To appreciate the realism of these multi-image simulations of environments, the reader is urged to visit the Lowell School.

The projectors and screens also may be used to show sets of related pictures. The sets may be of a process, in which case the pictures depict the steps in the process — for example the development of a seed into a plant (figure 4). The sets of slides may be of items which the instructor wants to relate in a special way. A reading teacher, for example, could show each of the vowels with appropriate accompanying illustrations (figure 5). It is expected that the presentation — so much bigger than life and multi-imaged — would have an impact on students that could not be duplicated by any other teaching method. And the

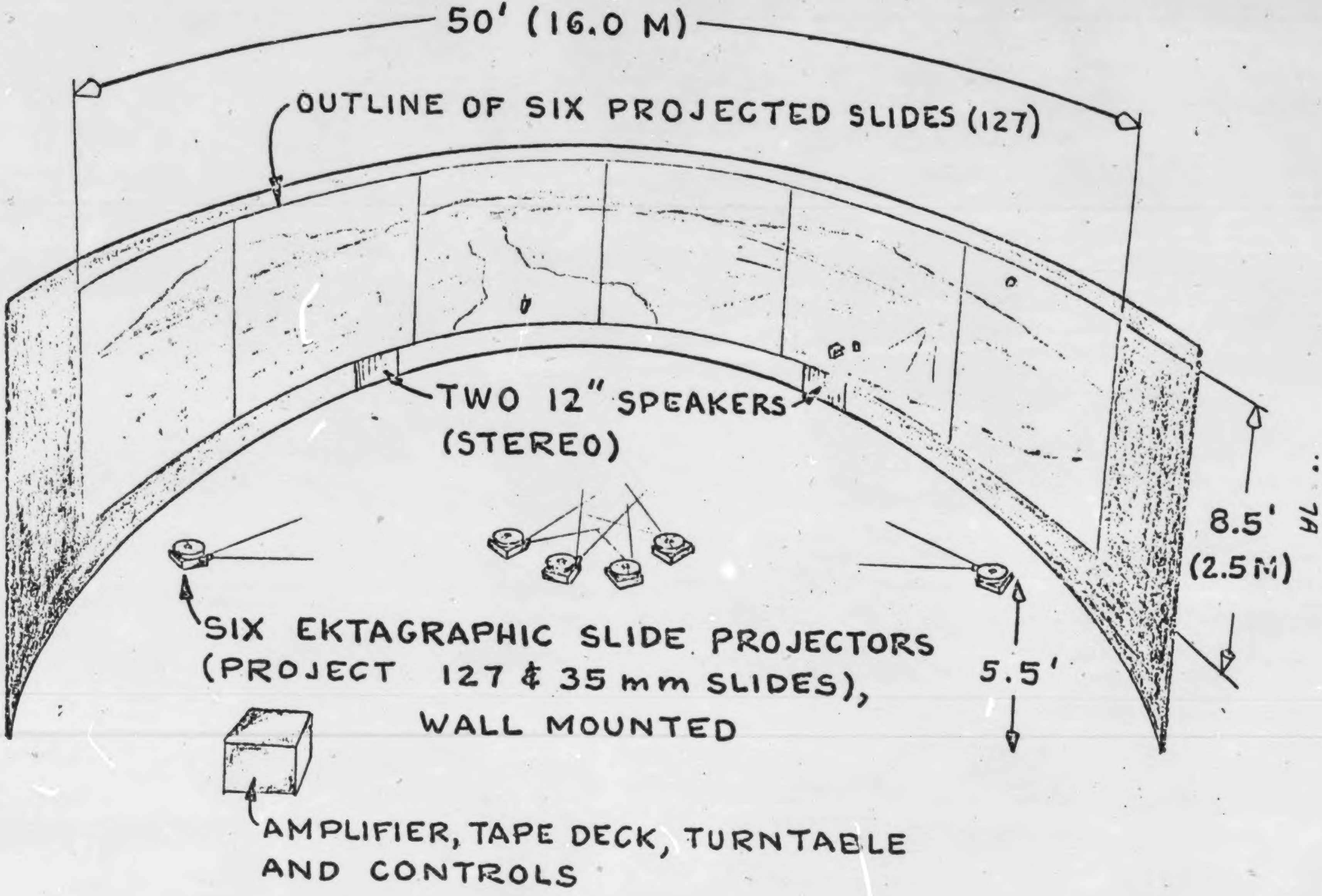
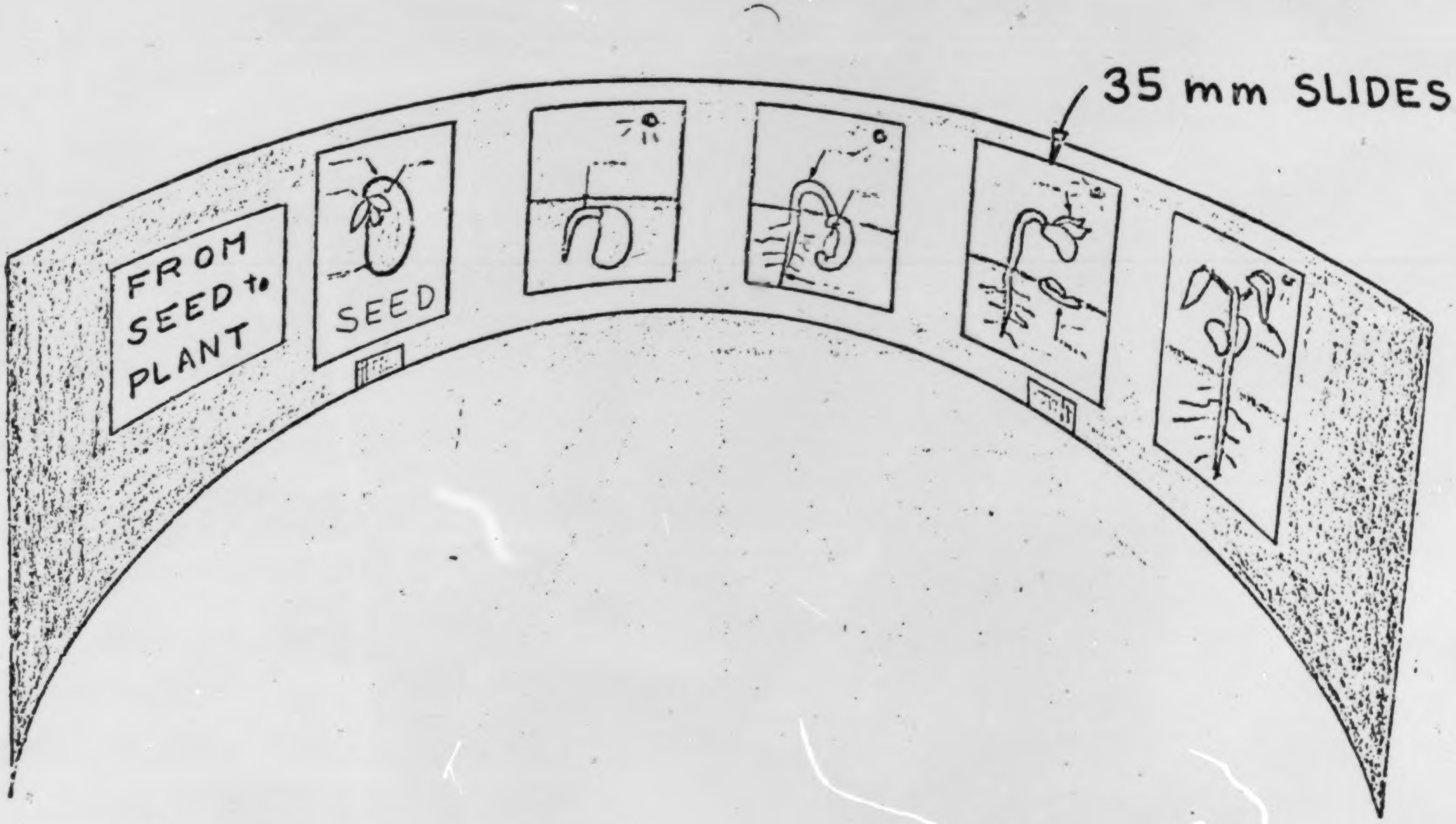

50' (16.0 M)
OUTLINE OF SIX PROJECTED SLIDES (127)
TWO 12" SPEAKERS (STEREO)
8.5' (2.5 M)
7A
SIX EKTAGRAPHIC SLIDE PROJECTORS (PROJECT 127 & 35 mm SLIDES), WALL MOUNTED
5.5'
AMPLIFIER, TAPE DECK, TURNTABLE AND CONTROLS

Figure 3.

PROJECTION AND AUDIO SYSTEM


35 mm SLIDES
FROM SEED to PLANT
SEED

HOW A SEED DEVELOPS INTO A PLANT

Figure 4.

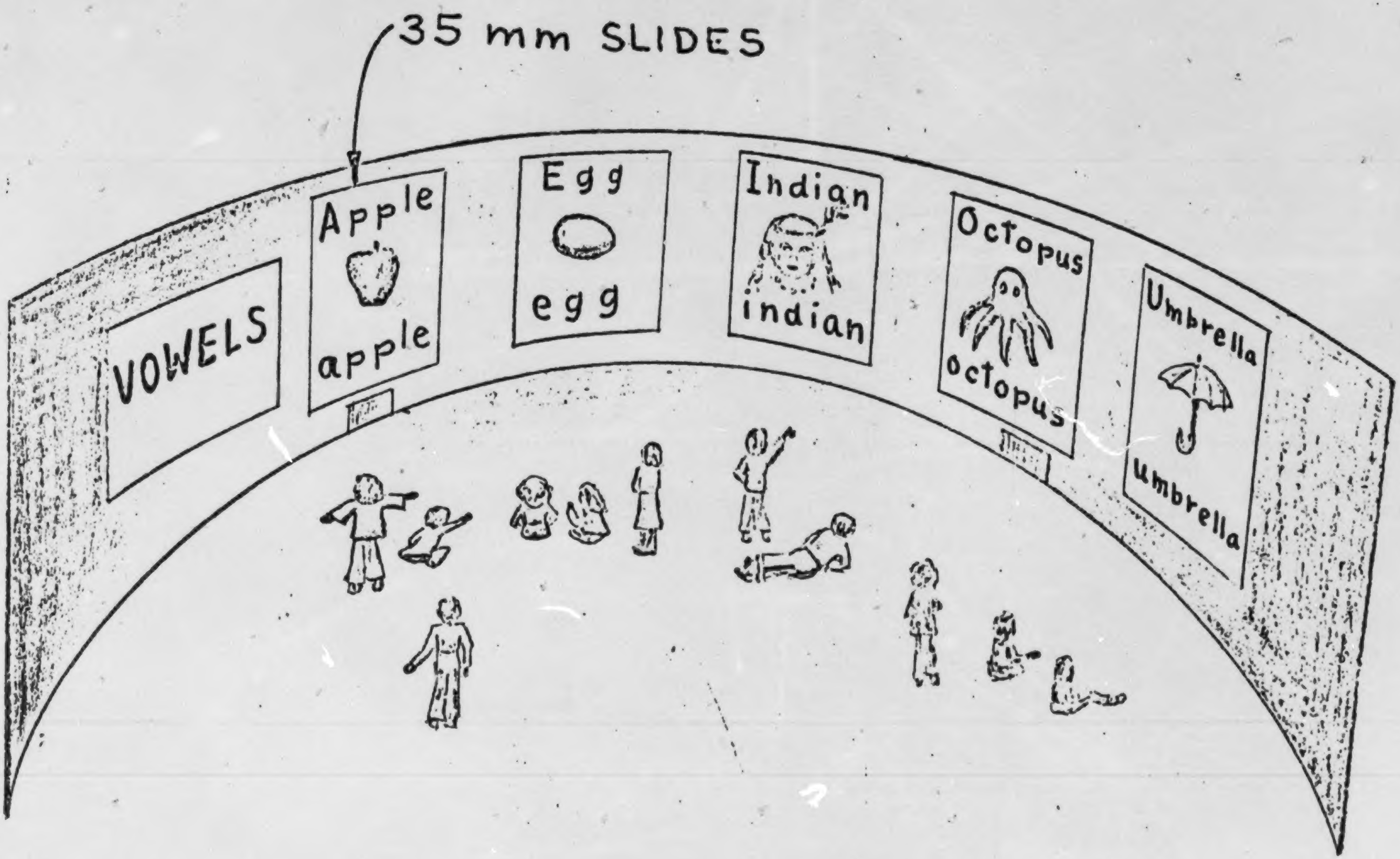

35 mm SLIDES
VOWELS
Apple
apple
Egg
egg
Indian
indian
Octopus
octopus
Umbrella
umbrella

Figure 5.

SET OF SLIDES DEPICTING VOWELS

9.A

Pawlolli '75

systems by its very nature lends itself well to a graphic lesson (or lessons) on sets in mathematics.

The room is a fine facility for the presentation of shows produced by students. A fourth grade class at Lowell produced Jack and the Beanstalk. Students wrote the play and made the setting by drawing scenes on Mylar film which had been inserted into super slide mounts. They then projected the slides on the screen (figure 6). The scenery was easily made by this process and the children were able to change scenes instantly, simply by pressing buttons. In one scene the exterior of Jack's house was shown. Jack opened the door in the screen and went into his house. The projected scene changed to the interior of the house; Jack opened the door and stepped out from the back of the screen into the interior of the room.

Similarly, a sixth grade class did the Gilbert and Sullivan operetta, H.M.S. Pinafore. The children pantomimed the lyrics of songs to the music of a commercial record which was played through the facility's audio system. The children did the dialogue and narration live. Youngsters in an Academically Talented class did the current musical, 1776, by the same technique. The shows far exceeded in scope and quality the typical elementary school play; the children and teachers were delighted with the results. All of the children in the class — with or without

11.A

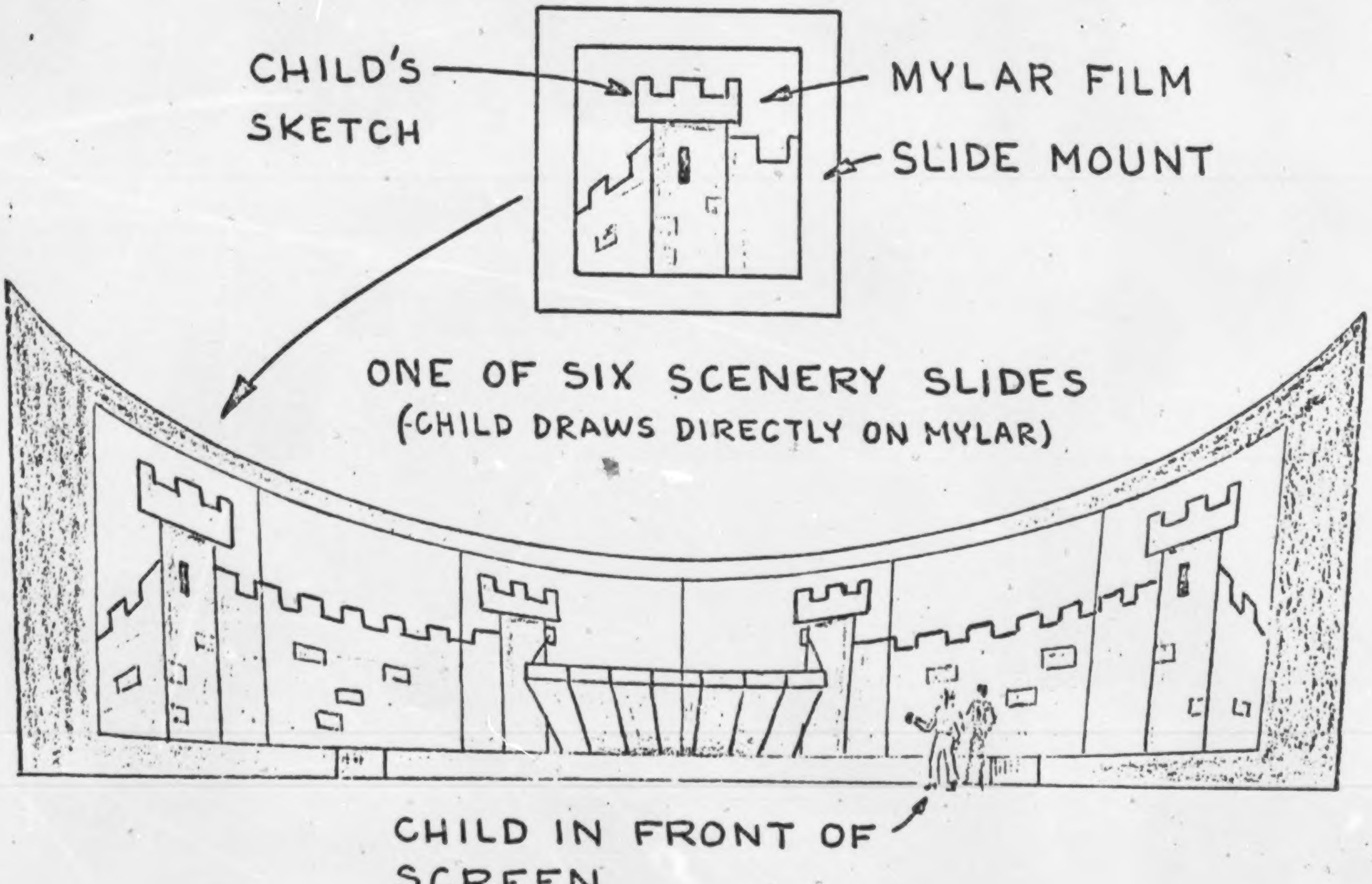

CHILD'S SKETCH
MYLAR FILM
SLIDE MOUNT
ONE OF SIX SCENERY SLIDES
(CHILD DRAWS DIRECTLY ON MYLAR)
CHILD IN FRONT OF SCREEN

Figure 6.

SCENERY FOR PLAY OR MUSICAL PRODUCED BY PROJECTING SLIDES DRAWN BY CHILDREN musical talent — were able to perform. As a footnote, a young man with outstanding artistic ability did the scenery for the show (drawing on slides as described earlier); as a result, his talent was brought to the attention of the district's art coordinator who now is arranging for him to take art lessons.

The facility can also be used to cast shadows on the screen. A point source of light (a standard small light bulb) is placed at the center of curvature of the screen so that opaque objects placed between the light and the screen cast an enlarged shadow of the object on the screen (note that the slide projectors are not used). For example, a child's hand will cast a shadow (depending on its distance from the light source and screen) several meters high and wide. Consequently, the room can be used for shadow play and dancing (figure 7). A small piece of acetate with a dinosaur drawn on it will cast an outline on the screen that is the full size of some dinosaurs (figure 8).

13.A

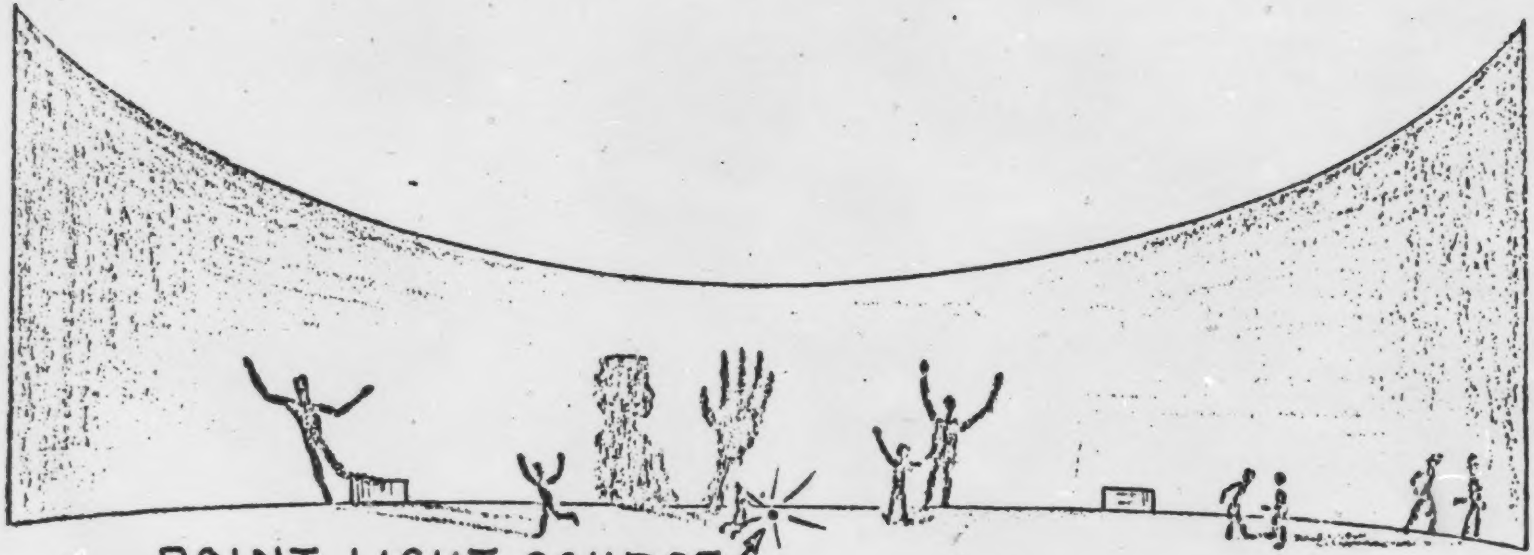

POINT LIGHT SOURCE
AT CENTER OF
SCREEN CURVATURE

Figure 7.

SHADOW PLAY AND DANCING

Pandolfi '75

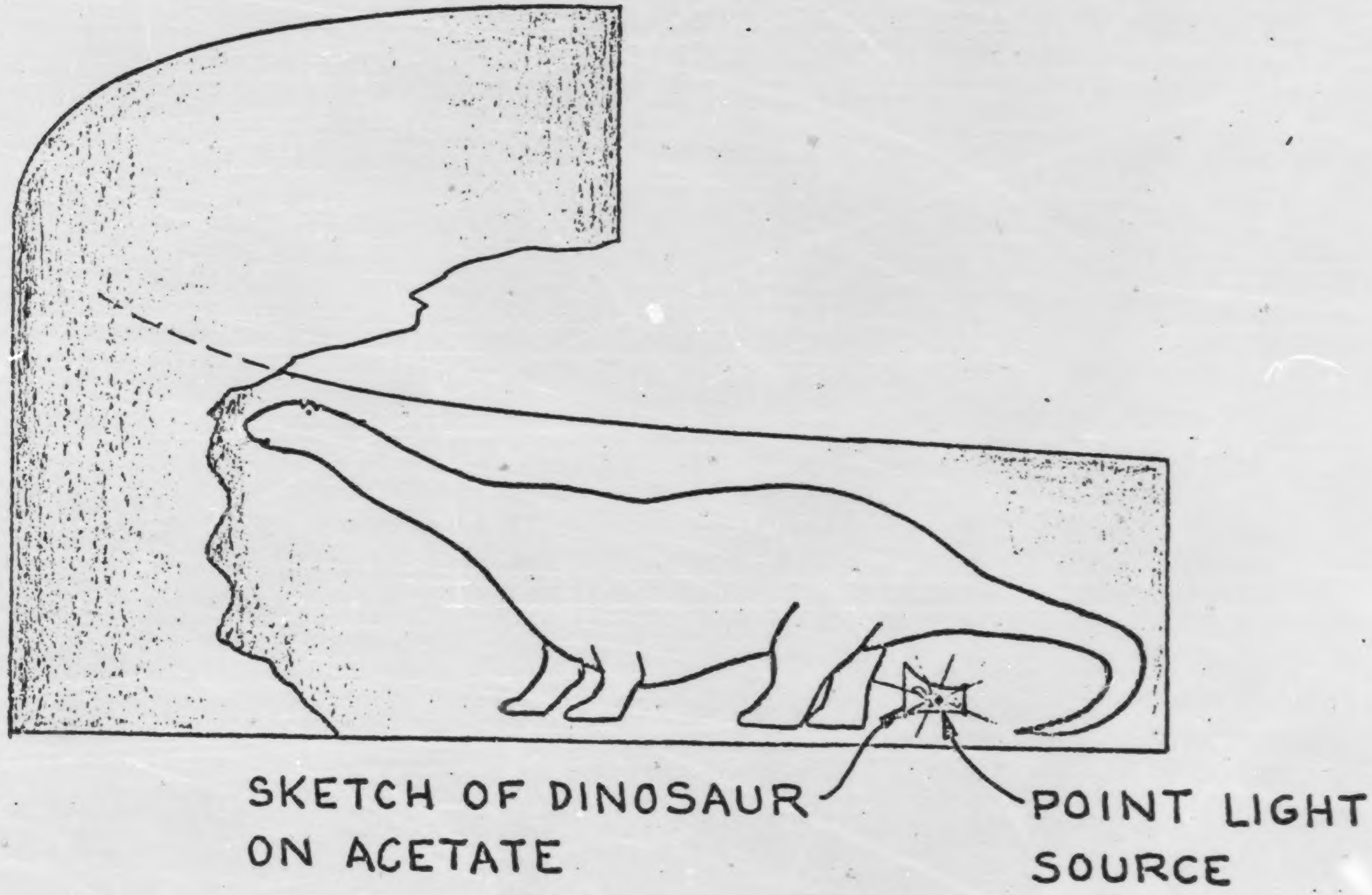

SKETCH OF DINOSAUR ON ACETATE
POINT LIGHT SOURCE

Figure 8.

POINT LIGHT PROJECTION

Pandolfi '75

The room lends itself well to graphic and motivating presentations of math activities. For example, a student can draw and cut out the outline of an object (automobile, figure, dinosaur, etc.) so that when it is placed 10 cm. from the light source, a full size silhouette (in meters) of the object is cast on the screen (meters are marked off on the screen with black tape). The problem is a relatively simple ratio problem and, if the student does it correctly, he will know that he is right not because the teacher says so but because he has seen for himself that the shadow on the screen is the proper size (figure 9).

At present the instructor has prepared several programs for the facility. The programs include such things as Disney World, the Shenandoah Valley, Harper's Ferry, the Solar System and Moon Landing (figure 10), Cave Pictures, Italy, Workers at a Construction Site, and pictures* of Lowell's involvement in a comprehensive career education model plus miscellaneous other pictures. Appropriate music and sound effects accompany the pictures.

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*About half of the career education pictures were taken by another teacher at Lowell.

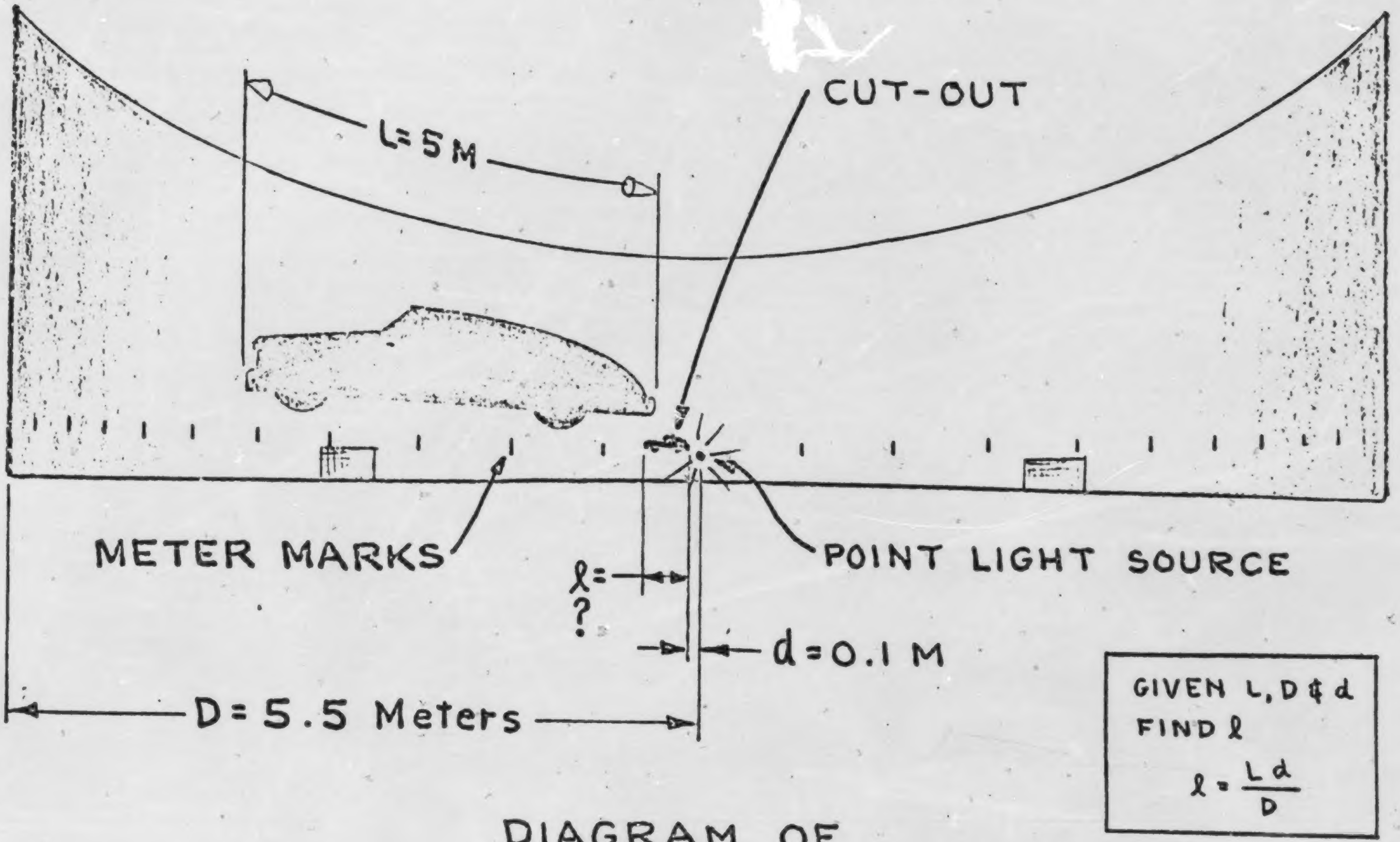

L=5M
CUT-OUT
METER MARKS
POINT LIGHT SOURCE
l= ?
d=0.1 M
D=5.5 Meters
GIVEN L, D & d
FIND l
$l = \frac{Ld}{D}$

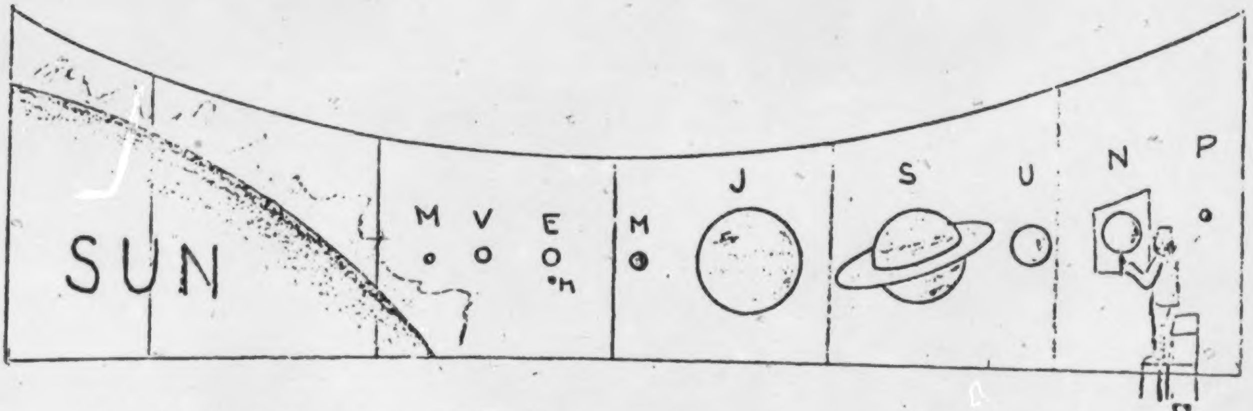
Figure 9.

DIAGRAM OF MATHEMATICAL RATIO PROBLEM

16. A

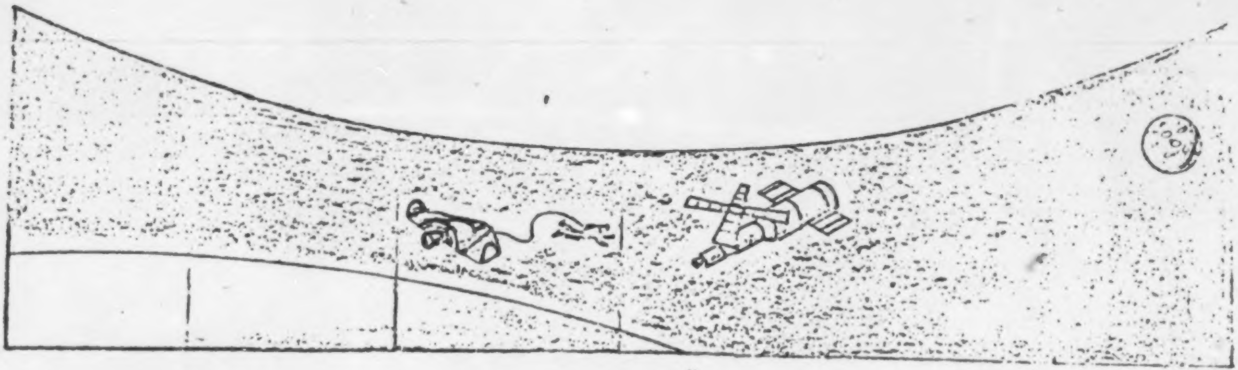
Pandolfini '73

17. A


SUN
M
V
E
m
M
J
S
U
N
P

CHILD TRACING IMAGE OF NEPTUNE ON PAPER

RELATIVE SIZES OF SUN AND PLANETS



REPAIRING A SPACE STATION

Figure 10.

RATIONALE FOR MULTI-IMAGE SYSTEMS

Multi-image facilities like the one described in this paper are relatively few in number and usually are commercial installations in theaters (e.g., Cinerama), world's fairs, industrial exhibitions or shows and a Disney World and Disney Land. Audiences of adults and youngsters come away from these presentations awed and excited by what they have experienced.

From the writer's experience at Lowell and some limited research, it would appear likely that this audience reaction can be translated into learning. The question is how do multi-image facilities contribute to the learning process and how are they different from other forms of media? i.e., What can they do to contribute to learning that other forms of media cannot do? Donald Perrin in his Doctoral Dissertation "The use and Development of Simultaneous Projected Images in Educational Communication (1969)" writes that

> "From the existing body of knowledge there appears to be three major areas which distinguish multiple image communications from conventional use of media, these are
>
> 1. Simultaneous images
> 2. Screen size
> 3. Information density
>
> Media such as films, television, filmstrips and slides have, until now, presented their images sequentially. In sequential montage the meaning of each new image is determined by the context of what has gone before. In its temporal aspects,

> sequential montage is analagous to verbal language, where several elements in series determine the total meaning. Simultaneous images interact upon each other at the same time, and this is of significant value in making comparisons and relationships. An important contributing factor is screen size. On small screens, the overall identity of the image is most significant, on large screens, (or screens side-by-side) the viewer make his own montage of different image elements increasing the probability of learning comparative information. The immediacy of this kind of communication allows the viewer to process larger amounts of information in a very short time. Thus information density is effectively increased, and certain kinds of information are more efficiently learned.
>
> It seems axiomatic that simultaneous images are more effective than sequentially presented images for visual comparisons.

William L. Millard, as quoted by Perrin, enumerates at length on the kinds of classroom situations where simultaneous presentation would be advantageous.

> The multiple-image technique enables the teacher to make comparisons, to illustrate the development of interrelated concepts, show relationships and to otherwise combine the capability of several photographic aids either simultaneously or in some programmed pattern or sequence of instructional purposes.
>
> Using multiple images, we can effectively treat comparisons of the physical, geographical, environmental, dimensional, and spatial characteristics diferences, likenesses and many other forms of comparisons can likewise be efficiently handled by this method.
>
> In a similar way presentations involving relationships, parts to whole,diagrams of apparatus, model to object, form to function and the like, can be displayed with multiple images.

Perrin goes on to state that

> Large screen have the physical and psychological factors necessary for realism and involvement and may be comparable to real environments for many training purposes.
>
> There are many dimensions to information density in multiple-image presentations. First it is important to distinguish between the method of presentation and the mechanism of perception. The theory of multiple image suggests that for making contrasts and comparisons, and for learning relationships, simultaneous images reduce the task of memory (a dimension of visual task) and enable the viewer to make immediate comparisons.

Another doctoral disertation produced interesting results pertinent to the simulation of environments with multi-image systems. Norman C. Pendered in the September/Octorober 1975 issue Man/Society/Technology wrote in an article entitled "Field Trips-Vicariously?" that

> One study made in 1969 by Goldsbury involved 251 third grade students who were divided into three groups. One group took an actual field trip: the second group experienced the same filed trip via a slide-tape presentation: the third groups saw the slide-tape presentation and then took the field trip. Parallel test forms covering facts, concepts and attitudes were administered to all the groups before and after the field trips.
>
> Goldsbury's findings revealed that the combination of slide-tape and direct experience was the most effective of the three approaches. However, vicarious field trips alone proved more effective than the direct experience of the field trip itself. These results suggest that teachers can improve the educational effectiveness of a field trip by using a slide-tape presentation to supplement the actual visit. The study also shows that vicariour field trips via slide-tape are a good substitute for actual trips.

Another advantage of multiple image systems, especially those which partially envelop the viewer as is the case with Lowell's 180° screens, is that they capture the viewer's attention in a way other media do not. Unlike audiences of other media, the viewer is usally not passive. He is, in a sense, a part of what he is seeing and hearing and as a result gets more emotionally involved. Hopefully then these systems may have potential in the affective domain in changing attitudes, a prerequisite to changing behavior.

FUTURE PLANS & PROPOSALS

Within the next year Ralph Pandolfi, the instructor who with his students designed and built the facility, hopes to produce the following programs, some of which will be elaborations of previously produced programs:

- A unit on Italy
- A unit on Harper's Ferry
- A career education unit on the construction of an addition to the Lowell School (sponsored by the Lowell Home & School Association)
- A Bicentennial program produced by Lowell students and students from St. Helena's Parochial School
- An undetermined program to be sponsored by a community businessman's organization
- Miscellaneous small experimental projects

Proposal for the next one or two years

It is proposed that Ralph Pandolfi be released from classroom duties so that he can devote his full time to preparing material for the facility and also be available to present it to youngsters and adults. Furthermore, while the facility has been highly praised by all who have seen it and apparently has many applications to curriculum, there should be a study made to determine its strengths, weaknesses and applicability to all areas of curriculum and how feasible it is from a monetary point of view.

Ralph Pandolfi is a doctoral candidate* at Temple University and for his doctoral disertation is planning to do research dealing with a facet of multiple image systems.

If a proposal developed by the principal to utilize the Lowell School career education team as a district resource is approved, Mr. Pandolfi will be designated as the Experience Room coordinator and will have the time necessary to prepare material, operate the facility and concurrently determine its full capability and potential beyond the limited work he will do for his disertation.

Proposal for three years in the future and beyond

The Principal's proposal also recommends that, because the facility has excellent potential as an exciting tool in all curriculum areas and can enhance the learning process, similar facilities should be built throughout the city, perhaps one in each of Philadelphia's school districts.

Proposal to use the facility for a Philadelphia area resource

- Local colleges could use the facility's presentations on Italy with students studying art or Italian history.
- Great Adventure officials have made overtures to Philadelphia schools asking their participation on learning activities involving their park. It is probable that they would sponsor the development

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*In vocational education, M.A. was in industrial education, B.A. majored in physics.

of a multi-image presentation on their park.

o Concerning funding, it is also probable that labor, business, ethnic&civic groups, foundations and others will look favorably upon the sponsoring of presentations dealing with areas in which they are interested.

SUMMARY

Lowell's multi-image facility is uniquely equipped to present to students of all ages, all areas of curriculum in a manner which should expedite and motivate learning. Its large 180° screen and six projectors can simulate environments, compare and contrast items and provide high information density. Students find it interesting and exciting and enjoy involvment in the activities itmakes possible. As a result, teaching takes on a new dimension and it appears that learning is increased. The facility has been used to take children on "trips" to Italy, Disney World, the Shenandoah Valley, Harper's Ferry, a farm, a stream, a cloud bank, the moon and a cave. It has been used to provide a stage and stage scenery for a play and a musical (including pantomiming) produced by children. It has been used to depict dramatically the relative sizes of the planets and the sun, to simulate with children made slides a "trip" to Mars, for shadow play and dancing and for the projection of a variety of shadows. Problems involving mathematical ratio and sequential operations may be presented with optimum impact. See the appendix for proposed future applications.

It is proposed that the instructor, Ralph Pandolfi, who developed and is operating the facility be released from classroom duties so that he can prepare additional material for the facility and be available to present it to students.

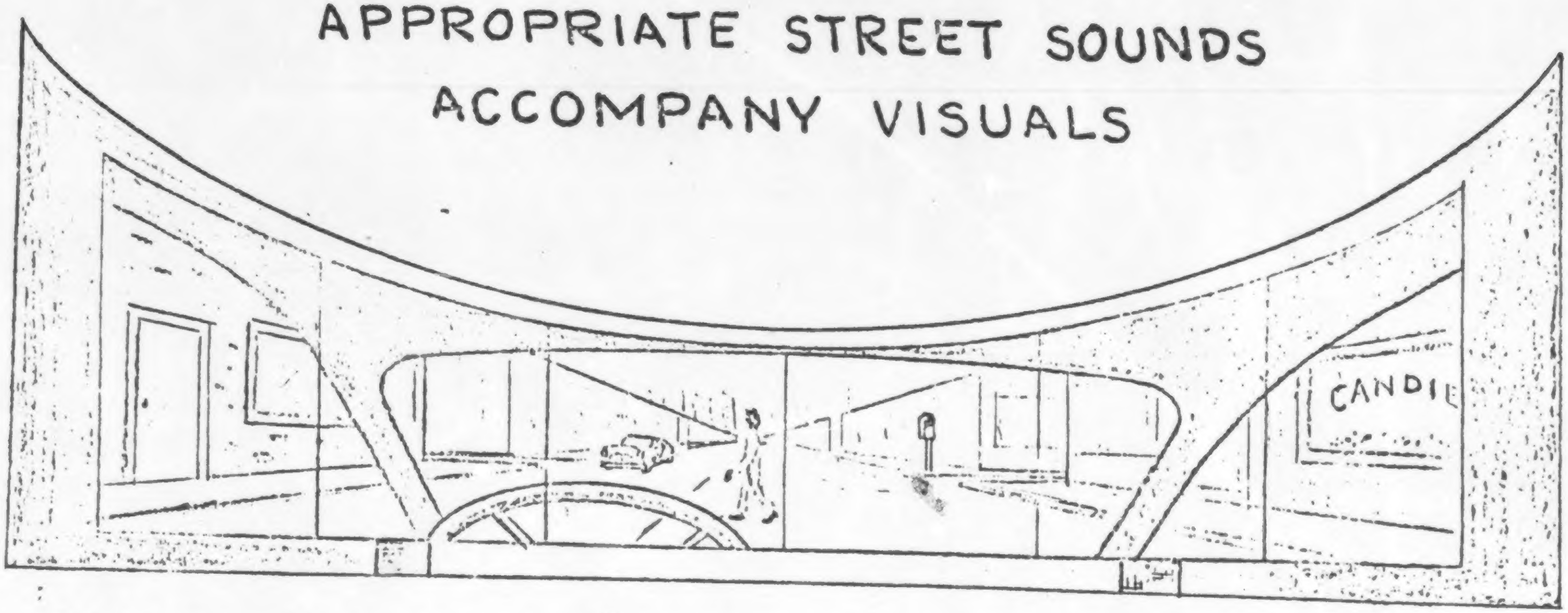
Finally, it is proposed that studies be done to determine the facility's further capability and explore the feasibility of expansion into other Philadelphia school districts and/or incorporating it into a career education development and resource center at the Lowell School.

APPENDIX

Sampling of Additional Uses for Lowell's Multi-Image Facility

- Driver Training (See figure 11)
- Presentations on other lands (Africa, for example, see figure 12)
- Silent "movies" using strobe lights (with children) to simulate staccato movement of early movies
- Planetarium
- Career education program on the 15 occupational clusters, as defined by U. S. Office of Education
- Staff development material dealing with career education

28.A


APPROPRIATE STREET SOUNDS
ACCOMPANY VISUALS
CANDIE

455

456

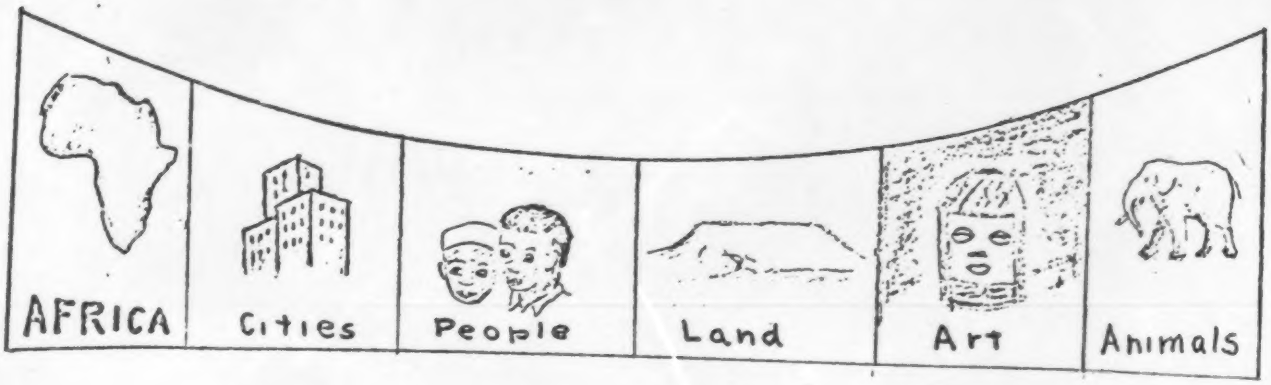
SLIDES CHANGE & "DRIVER" REACTS BY PRESSING STOP OR GO FOOT PEDAL

DRIVER TRAINING

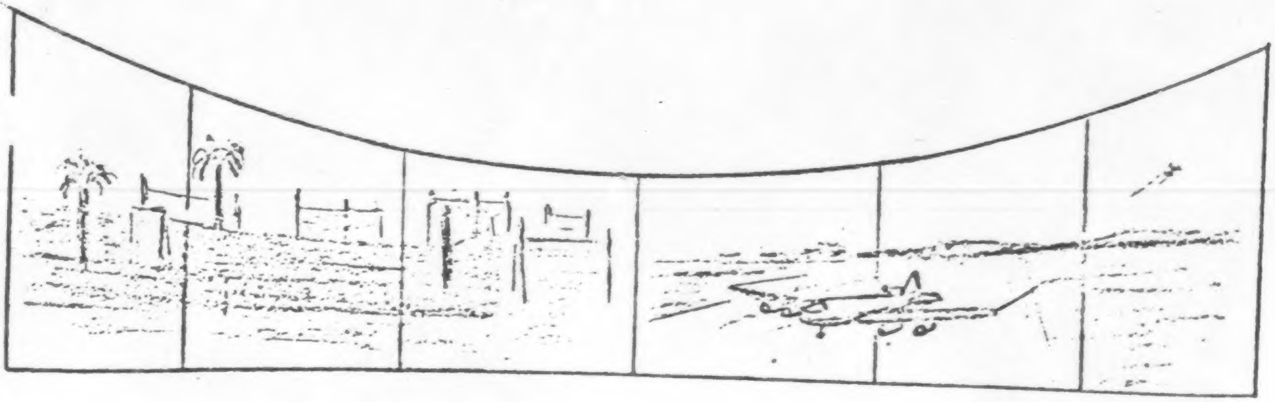
Figure 11.

Pandolfi '75

cy. A


AFRICA
Cities
People
Land
Art
Animals

AFRICA
OUR WORLD NEIGHBOR



AFRICA - A LAND OF CONTRASTS

OE 070 510

Figure 12.